Nuclear Weapons and Arms Control in South Asia after the Test Ban

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Preface

SIPRI has assembled a team of experts to address the key issues in nuclear arms control in South Asia and explain what is behind the opposition to arms control in the region.

Three years ago, the outlook for at least a measure of nuclear arms control in South Asia was bright. India's relations with China continued to improve after Rajiv Gandhi's visit to Beijing in 1988 and an initial agreement on the border was signed in 1993. India and Pakistan were participating constructively in the Geneva negotiations for a comprehensive test ban treaty (CTBT) and were soon to acquiesce in the approval of a mandate for negotiations on a ban on the production of fissile material for nuclear weapons. Both had signed a bilateral ban on chemical weapons as well as the global Chemical Weapons Convention. Then, in the autumn of 1995, it all began to unravel. This book explains that unravelling and examines the feasibility of once again knitting together the region's participation in a process of arms control.

The immediate cause of South Asia's effectively dropping out of the nuclear arms control process was the Indian Government's reversal of course on the CTBT negotiations, largely for domestic reasons, as described in chapter 2. The irrelevance of China to India's decision is made clear in chapter 3. Although China has been cited as a potential threat by Indian opponents of arms control, there are striking similarities in the two countries' arms control goals, albeit marked by divergent methods of achieving them. Chapter 4 attempts to account for Pakistan's passivity at a time when an initiative to sign the CTBT could have gained it important foreign policy advantages without appreciable cost. These three studies describe the specific domestic and political backgrounds. The final chapter suggests that the military situation in South Asia may not be as stable as is often thought, although there is little sign of the necessary effort to correct the central problems, and identifies some risks to stability in the region.

The authors are Eric Arnett, the leader of SIPRI's Project on Military Technology, Samina Ahmed from Pakistan and Hua Han from China (both visiting fellows at SIPRI during the course of the project) and Giri Deshingkar from India, who has been an invaluable adviser to the project. The assistance of and suggestions made by Glenn Blackard of Texas Instruments, P. R. Chari and Ashok Desai are also gratefully acknowledged. Editorial duties were ably handled by Eve Johansson

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Adam Daniel Rotfeld
Director of SIPRI
November 1997

Acronyms and abbreviations

AWAC	Airborne warning and control
BJP	Bharatiya Janata Party (India)
CD	Conference on Disarmament
CTB	Comprehensive test ban
CTBT	Comprehensive Nuclear Test-Ban Treaty
DAE	Department of Atomic Energy (India)
DOS	Department of Space (India)
DRDO	Defence Research and Development Organisation (India)
FMCT	Fissile material cut-off treaty
IAEA	International Atomic Energy Agency
IAF	Indian Air Force
ICBM	Intercontinental ballistic missile
IGMDP	Integrated Guided Missile Development Plan
IRBM	Intermediate-range ballistic missile
ISRO	Indian Space Research Organization
JWG	Joint Working Group (of China and India)
LAC	Line of Actual Control
LCA	Light Combat Aircraft
NPT	Non-Proliferation Treaty
PAF	Pakistan Air Force
PLA	People’s Liberation Army (China)
PML-N	Pakistan Muslin League (Nawaz)
PPP	Pakistan People’s Party
PTBT	Partial Test Ban Treaty
R&D	Research and development
SAM	Surface-to-air missile

1. Nuclear weapons and arms control in South Asia after the test ban

Eric Arnett

I. Introduction

As a region almost entirely unencumbered by meaningful nuclear arms control, South Asia is unique. This is not to say that the nuclear options of India and Pakistan are themselves unconstrained—export controls and international political pressure constrain them—or that there exist no risks that might be ameliorated by arms control. Rather, aside from participation in a few agreements of limited relevance to the region's situation—the 1959 Antarctic Treaty, the 1963 Partial Test Ban Treaty (PTBT), the 1967 Outer Space Treaty and the 1971 Seabed Treaty—and the 1988 bilateral Agreement on the Prohibition of Attack against Nuclear Installations and Facilities, India and Pakistan have avoided serious commitments like the 1968 Nuclear Non-Proliferation Treaty (NPT) and now the Comprehensive Nuclear Test-Ban Treaty (CTBT) of 1996.

This report will not reiterate the reasons why it might be in the interests of the Indian and Pakistani governments to reconsider their opposition to nuclear arms control. Those have been put forward elsewhere at great length. Instead it is the authors' aim to describe the domestic politics of the region so that the difficulty of overcoming the current situation is better understood. The original purpose was to identify opportunities for progress. The reluctant conclusion is that there are none unless the logjam of bureaucratic interests and pro-nuclear populism can be freed. In addition to examining the specific interests that are served or harmed by the nuclear options and the ingrained defiance of arms control, this study identifies previously overlooked risks to stability in the region that suggest that a new approach is necessary, whether or not arms control is possible.

This chapter follows the structure of the book as a whole, summarizing major conclusions of the other chapters and introducing some new material that does not appear in those chapters. The focus is primarily on India for two reasons: better information is available on Indian plans for military, industrial and scientific development, and

India is in the best position to take the initiative in arms control. Section II, like chapter 2, examines Indian domestic politics. Section II also assesses the effects of the nuclear option on Indian science and technology and the civilian nuclear industry. Section III addresses Sino-Indian relations and evaluates the argument that China defines an ultimate asymptote beyond which India dare not reduce its nuclear potential. Section IV considers Pakistan's domestic politics as an inhibition on arms control initiatives that otherwise would serve the national interest. Finally, section V suggests sources of instability that have thus far been overlooked or underestimated. These need not be addressed through arms control, but unless current attitudes are modified by some other means the result could be disaster.

Background

It is generally believed that both India and Pakistan could assemble and use a small number of nuclear weapons at short notice. Whereas Pakistan is thought to have about 5 warheads or their components after having ceased enrichment of uranium to weapons grade, India is thought to have about 30 warheads or their components and the rate at which it produces plutonium for warheads is not known. Imported combat aircraft constitute the primary means by which either antagonist would attempt to deliver nuclear weapons. Although Pakistan operates the US F-16 fighter, the more likely nuclear-strike aircraft would be its French Mirage-III and -V multi-role aircraft. India could deliver nuclear weapons with its French Mirage 2000, Anglo-French Jaguar or newly imported Russian Su-30 multi-role aircraft. Pakistan is becoming more dependent on Chinese and French arms imports as actions of the US Congress disrupt its relationships with suppliers in the USA. In contrast, India is diversifying its sources of supply and is exploring the extent to which it can rely on US suppliers for military technologies, if not complete weapon systems. While both countries have nascent short-range ballistic missile capabilities, neither is thought to have decided firmly on nuclear warheads for these forces.

II. India's domestic politics

Then Prime Minister Jawaharlal Nehru's support for the CTBT in the 1950s is frequently noted in discussions of India's arms control

behaviour, but his grandson Rajiv Gandhi's 1988 initiative for complete nuclear disarmament in a more cynical era is less commonly appreciated. While the heady idealism of the first decade after Independence faded in the 1960s, the 1988 initiative demonstrated that India remained committed—at least rhetorically—to disarmament and the creation of a non-violent international order.[1] As envisioned by Rajiv Gandhi, the CTBT was one of the first steps towards complete nuclear disarmament, one that he hoped could be achieved by 1994. He was not far wrong.

Rajiv Gandhi was also the heir to the political dynasty of his mother, Indira Gandhi. The Congress Party as she reinvented it—it became the Congress (Indira) Party in her name—was as committed to India's nuclear programme as it was to the ideals embodied in the 1988 initiative. Indira Gandhi was responsible for India's single nuclear test and the preparations and threats to conduct others, and for India's acquisition of strike aircraft to deliver weapons anywhere in Pakistan, creating the fear of attacks on nuclear installations. As a result, the Congress (I) Party wore rhetorical and bureaucratic ruts in Indian nuclear and defence policies from which it later became difficult for the party or the country to choose an alternate course.

In 1996, when Congress's domination of Indian politics finally came to its unequivocal end, an opportunity might have emerged to free the wagon of state from those ruts, but, as Giri Deshingkar describes in chapter 2, this was not to be. The Congress dynasty allowed for leadership strong enough to make controversial decisions and reconcile the contradictions evident in Indian nuclear policies. It has been replaced by weak coalition governments that appear incapable of challenging entrenched interests. The particular interests of the nuclear and defence establishment are especially powerful, since they have a monopoly on relevant expertise and have been unusually successful in discrediting critical opinion, in part by appealing to national sovereignty and the special status of security issues.

While this does not bode well for Indian participation in nuclear arms control, there are positive signs with respect to other areas of governance. As Deshingkar notes, the government of I. K. Gujral has adopted a doctrine of good relations with its neighbours that empha-

[1] Gandhi, R., World Free of Nuclear Arms, Address to the Third Special Session on Disarmament of the UN General Assembly in New York, 9 June 1988, reprinted in Gandhi, R., *Statements on Foreign Policy April–June 1988* (Ministry of External Affairs: New Delhi, 1988), pp. 60–92.

sizes 'non-reciprocity', meaning that India will not mindlessly counter every provocation with a response in kind. This approach, which has been accepted positively by Pakistani Prime Minister Nawaz Sharif, offers hope that cross-border support for Kashmiri insurgents—the greatest potential source of instability—can be kept within acceptable limits. Furthermore, as is seen in the next section, the United Front Government of Gujral and his predecessor H. D. Deve Gowda has succeeded in quietly limiting investment in military research and development (R&D). Nevertheless, the problems of India's civilian nuclear programme—also summarized below—probably cannot be alleviated unless a new international understanding ends the isolation of the nuclear establishment.

Indian science and technology

Since the early 1960s, Indian investment in science and technology has been dominated by government-funded R&D in the nuclear, military and space fields. As seen in table 1.1, the Indian Government's investment in R&D has been remarkably stable since the 1980s, with about $1.3 billion (in constant terms) being spent annually and roughly 60 per cent going to the Defence Research and Development Organisation (DRDO), the Department of Atomic Energy (DAE) and the Department of Space (DOS). After a slight decline, the era of economic reform was initially marked by major increases. In 1993/94 and 1994/95, the total figure increased by roughly $200 million, with most of the increase going to the DRDO and DOS. Funding for DRDO has since, however, declined by nearly 10 per cent in real terms despite the request of the Defence Ministry to double its budget.

Relatively little of this is spent on nuclear weapons and related delivery systems. Research on nuclear warheads probably accounts for no more than a few tens of millions of rupees every year, less than 1 per cent of the DAE R&D budget, and research on all of India's missile projects together has amounted to less than $500 million since 1983, of which less than $15 million was spent on the Agni intermediate-range ballistic missile (IRBM).[2] The Indian Air Force's Jaguar, Mirage 2000 and Su-30 fighter-bombers, its most plausible nuclear delivery systems, were bought primarily for conventional

[2] Arnett, E., 'Military research and development', *SIPRI Yearbook 1996: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1996), p. 388.

Table 1.1. Expenditure on R&D by agencies of the Indian Government

Figures are in billion current rupees, 1990 US$ million. Figures in italics are percentages.

	DRDO (A)		DAE (B)		DOS (C)		Total (D)		(A+B+C)
Year	Rs	$	Rs	$	Rs	$	Rs	$	/D (%)
1958/59	0.02	8	0.08	43	. .	. .	0.19	110	*49*
1970/71	0.18	51	0.29	81	. .	. .	0.89	250	*53*
1975/76	0.52	84	0.54	87	0.37	60	2.24	360	*64*
1980/81	0.80	110	0.73	98	0.56	75	4.38	580	*48*
1985/86	4.52	390	1.43	120	2.13	180	13.35	1 140	*61*
1986/87	4.31	340	1.61	130	3.10	240	15.33	1 210	*59*
1987/88	5.49	400	1.79	130	3.66	260	18.08	1 300	*60*
1988/89	5.78	380	2.10	140	4.22	280	20.47	1 350	*59*
1989/90	6.08	380	2.50	160	3.99	250	22.07	1 380	*57*
1990/91	6.81	390	2.76	160	3.86	220	23.13	1 320	*58*
1991/92	6.86	340	3.06	150	4.60	230	25.55	1 280	*57*
1992/93	7.93	360	3.11	140	4.99	220	27.55	1 230	*58*
1993/94	10.46	440	3.76	160	6.95	290	35.33	1 490	*60*
1994/95	12.45	480	4.18	160	7.57	290	39.32	1 510	*62*

Source: Government of India, Department of Science and Technology, *Research and Development Statistics*, various years.

missions and little or no Indian R&D funds were spent on them. The common belief that the nuclear option is distorting Indian science does not appear to be borne out by the facts. If there is a culprit, it is the enthusiasm for big showpiece military and space programmes.

Nuclear power in India

The DAE's R&D budget has remained fairly steady for more than a decade, both in real terms and as a fraction of the total DAE budget. At roughly $160 million, it has fallen as a fraction of the total DAE budget from 86 per cent in 1963/64 to a constant 20 per cent as the business of DAE becomes sustaining the nuclear power industry in India,[3] a major undertaking given its international isolation. That iso-

[3] In 1963/64, however, the total DAE budget was only Rs 129 million, about $62 million in 1990 US$. Indian Department of Atomic Energy, *Annual Reports* (Bombay: various publishers, various years); and Hart, D., *Nuclear Power in India: A Comparative Analysis* (Allen & Unwin: London, 1983).

Table 1.2. Operating history of Indian nuclear plants

Name	First operation	Lifetime generation	Lifetime EAF	Unplanned outages	Equip. outages	Main equip. problem
Canadian design:						
Kakrapar-1	93.05.06	130	*12.0*	*16.5*	*92.6*	Turbine
Narora-2	92.07.01	1 412	*24.2*	*14.6*	*87.3*	Power supply
Narora-1	91.01.01	1 532	*26.2*	*85.8*	*95.3*	Turbine
Kalpakkam-2	86.03.21	7 743	*57.9*	*53.2*	*95.2*	Reactor
Kalpakkam-1	84.01.27	9 429	*52.1*	*59.9*	*92.1*	Power supply
Rajasthan-2	81.04.01	12 956	*56.2*	*59.4*	*91.0*	Turbine
Rajasthan-1	73.12.16	7 353	*23.9*	*61.9*	*96.9*	Reactor
US (GE) design:						
Tarapur-2	69.10.28	22 304	*59.9*	*26.1*	*96.9*	Power supply
Tarapur-1	69.10.28	21 514	*59.1*	*17.7*	*99.2*	Turbine
Indian average			*41.2*	*43.9*	*94.1*	
IAEA average			*75.0*	*32.4*	*74.7*	

Notes: First operation: date of first commercial operation. Lifetime generation: total electricity produced in gigawatt (e)-hours. Lifetime EAF: cumulative energy availability factor = hours in operation at full capacity as % of hours on-line. Unplanned outages: cumulative average of unplanned outages as % of all outages. Equipment outages: cumulative average of equipment outages as % of all unplanned outages. IAEA = International Atomic Energy Agency.

Sources: IAEA, *Operating Experience with Nuclear Power Stations in Member States in 1994* (IAEA: Vienna, 1995); and *Operating Experience with Nuclear Power Stations in Member States in 1989* (IAEA: Vienna, 1989).

lation—and the reliability and safety problems it has engendered—is the result of India's nuclear weapon option.

Reliability

The DAE has not been very successful in creating a viable nuclear power industry. Its semi-independent subsidiary, the Nuclear Power Corporation of India, operates nine power reactors, as summarized in

table 1.2. In 1994, four of them were among the six least reliable in the world and all are among the lowest 50 (12.5 per cent).[4]

Although 1994 was one of the worst years for India,[5] it is not unusual for most of India's reactors to be unavailable for more than half the year, as summarized in table 1.3—unusually poor performance. Of 108 reactor-years since 1970, 45 (42 per cent) saw annual energy availability below 50 per cent. Several of the problems suggest not only poor operational practice but also difficulties in integrating components (reactors, steam generators and turbines) into a system (the plant) and plants into a network (the power grid). Other states operating reactors of the same Canadian design have been much more effective in keeping them on-line, including Argentina, Canada and South Korea. Even the Kalpakkam units, India's most reliable, are only roughly as reliable as South Africa's Koeberg reactors, which in turn are the least reliable of comparable countries other than Brazil, India and Pakistan, as seen in table 1.4.

Although the available figures are not as precise, the performance of other Indian nuclear facilities is apparently not much better. There have been leaks at the Tarapur waste immobilization plant and at the Cirus and Dhruva research reactors associated with the weapon programme.[6] The Fast Breeder Test Reactor reached criticality in 1985, but operation of the full facility was delayed 11 years by problems

[4] International Atomic Energy Agency, *Operating Experience with Nuclear Power Stations in Member States in 1994* (IAEA: Vienna, 1995). More recent statistics are likely to give even lower figures because Rajasthan-1 and -2 were shut down for most of 1995 and 1996. The other 2 among the bottom 6 were Brazil's Angra-1, which will be closed, and Pakistan's Kanupp. In 1994 the performance of a total of 399 power reactors was reported by the IAEA, of which 49 had cumulative energy availability factors below 60%.

[5] Narora-1 was shut down for more than a year after a major fire on 31 Mar. 1993, caused by a broken turbine blade. Narora-2 suffered 67 outages in 1994, mainly due to grid disturbances. (Another fire broke out at Narora-2 over the weekend of 11–12 May 1996. Both units are again in service.) The troubled Rajasthan-1 reactor has been taken off-line due to age but may continue life as a research unit. Rajasthan-2 was shut down on 1 Aug. 1994 to have all its coolant tubes changed. Tarapur-1 was shut down for an emergency leak repair in Nov. 1994. Meanwhile, both units at Kalpakkam were running at reduced capacities as the result of a cracked reactor end-shield in one and a broken piping manifold in the other. Also in 1994 the containment dome at the Kaiga plant collapsed during construction. Menon, V., 'Atomic energy: troubling questions', *India Today*, 15 July 1996, p. 81; 'Major disaster averted at Narora atomic plant', *The Hindu*, 18 May 1996, p. 15; 'Panel for relook at status of RAPS reactors', *The Hindu*, 9 Mar. 1996, p. 17; 'AEC needs Rs 1000 cr for expansion', *The Hindu*, 22 Feb. 1996, p. 15; Ramachandran, R., 'Nuclear safety and goals of public awareness', *Economic Times*, 26 July 1995, p. 6; and IAEA (note 4).

[6] Ramachandran (note 5), p. 6.

Table 1.3. National average energy availability factor for India, 1971–94

Year	Tar-1	Tar-2	Raj 1	Raj-2	Kal-1	Kal-2	Nar-1	Nar-2	Kak-1	Av. Ind.	Av. IAEA
1994	21.4	64.2	2.2	32.2	66.6	80.9	0.0	43.5	12.0	35.9	75
1993	74.4	59.3	22.8	71.1	43.9	77.1	19.4	4.8		46.6	74
1992	57.9	62.2	12.2	58.1	84.6	54.2	42.3			53.1	72
1991	80.4	75.0	74.8	62.9	44.4	86.6				70.1	71
1990	80.2	58.7	19.4	68.7	45.6	57.2				55.0	70
1989	61.4	34.8	17.3	59.8	21.0	22.7				36.2	70
1988	82.4	61.7	20.7	67.9	65.0	33.2				55.2	72
1987	14.7	88.8	9.4	56.9	57.1	55.5				47.1	72
1986	83.0	58.6	0.0	59.6	39.3					48.1	70
1985	64.6	83.5	12.7	71.3	49.5					56.3	72
1984	89.6	69.6	0.0	49.1						52.1	70
1983	41.7	49.5	0.0	54.1						36.3	66
1982	89.9	55.4	2.1	20.7						42.0	65
1981	68.4	77.1	22.9							56.1	65
1980	67.8	78.4	52.6							66.3	62
1979	52.5	53.9	63.6							56.7	62
1978	51.2	62.3	8.5							40.7	68
1977	54.1	68.2	26.4							49.6	65
1976	62.7	61.7	44.3							56.2	
1975	53.0	52.8	33.2							46.3	
1974	60.7	35.1	36.8							44.2	
1973	41.2	68.0								54.6	
1972	35.4	11.8								23.6	
1971	38.1	59.2								48.6	

Sources: IAEA, *Operating Experience with Nuclear Power Stations in Member States in 1994* (IAEA: Vienna, 1995); and *Operating Experience with Nuclear Power Stations in Member States in 1989* (IAEA: Vienna, 1989).

with the turbine valves and the fuel handling mechanism, among others.[7]

Safety

DAE officials claim that the low availability of Indian reactors is the result of their concern for safety, uncompromised by the necessity to provide continuous service or make a profit, and that when doubts

[7] 'FBTR operationalisation anytime: IGCAR chief', *The Hindu*, 28 Mar. 1996, p. 6.

about safety occasionally arise they are more free to shut down plants and investigate than are their counterparts in other countries, who are obliged to run unnecessary risks. Aside from the aspersion that this argument casts on all the world's other nuclear operators, it neglects the cases in which safety has been at risk.[8]

Most prominently, the fire that led to Narora-1 being shut down burned through the cables for the emergency core-cooling system, causing the most serious incident in the Indian industry of the early 1990s. Despite unsettling allegations of sabotage made by the operator, the cause of the accident was the chronically poor metallurgy of Indian turbine producer Bharat Heavy Electrical Ltd.[9] Similarly, the decision to remove Rajasthan-1 from service came after a heavy-water leak. Tarapur-1 was also shut down after a leak. The situation is likely to deteriorate with the Nuclear Power Corporation's insistence on reducing investment in safety by 75 per cent.[10]

The link to the weapon option

The sources of trouble in the Indian nuclear power programme are legion, but a central one is its near-pariah status after the 1974 nuclear test. Since then cooperation with the Western democracies has been reduced to a trickle and not even equipment relating to reliability and safety has been transferred. While it is true that the Indian Government's commitment to economic growth through import substitution and self-imposed isolation would have had a similar effect in any case, it is unlikely that the DAE's preference would have been for a complete break with foreign suppliers. Indeed, every other area of indigenous R&D has fallen back on the import of key materials and components, if not complete systems. Foreign cooperation could also have helped with the chronically poor systems integration of Indian organizations, a source of the nuclear power sector's poor reliability.

[8] One of the main sources of poor reliability is the incompatibility of the nuclear plants with the electrical grid, as seen in table 1.2 ('power supply'). While this is not a safety concern in itself, it suggests questions about whether nuclear power stations are an appropriate solution to India's energy problems.

[9] As seen in table 1.2, turbines are the main source of poor reliability. The history of BHEL and its ideological fixation on power projects that exceed its grasp is recounted in Lall, S., *Learning to Industrialize: The Acquisition of Technological Capability in India* (Macmillan: London, 1987), pp. 152–61; and Desai, A. V., 'India's technological capability: an analysis of its achievements and limits', *Research Policy*, no. 13 (1984), p. 303.

[10] Naik, C., 'N-plants to cut costs at the expense of safety', *Indian Express*, 30 Sep. 1996.

Table 1.4. National average energy availability factors for selected countries

Name	Lifetime EAF	1994 EAF	No. of reactors	Comments
Kazakhstan	*82.5*	*66.2*	1	All Soviet, 9 others shut down
South Korea	*81.6*	*83.4*	9	6 US (Westinghouse), 2 French, 1 Canadian
Argentina	*79.0*	*94.1*	2	1 Canadian, 1 German
Mexico	*77.4*	*73.8*	1	US (GE)
Taiwan	*74.0*	*77.4*	6	All US (4 GE, 2 Westinghouse)
Canada	*72.5*	*72.1*	22	All Canadian PHWRs, 3 others shut down
Bulgaria	*72.3*	*57.3*	6	All Soviet
Ukraine	*67.4*	*62.6*	14	All Soviet, does not include Chernobyl-2
China	*66.4*	*66.4*	1	2 French reactors starting up
South Africa	*59.6*	*62.2*	2	Both French
India	*41.2*	*35.9*	9	2 US (GE), 7 Canadian, 9 more planned
Brazil	*36.9*	*3.5*	1	US (Westinghouse)
Pakistan	*27.7*	*47.8*	1	Canadian
IAEA average	*75.0*	*75.0*		

Note: Lifetime EAF: cumulative energy availability factor = hours in operation at full capacity as a percentage of hours on-line.

Source: IAEA, *Operating Experience with Nuclear Power Stations in Member States in 1994* (IAEA: Vienna, 1995).

Furthermore, the controversy over the weapon option, the NPT and International Atomic Energy Agency (IAEA) safeguards offers a potent weapon for the DAE to use against its critics to the detriment of open debate. When, as is increasingly the case, the DAE is confronted with its unkept promises as well as its reliability and safety problems, the critics are typically said to be operating as a fifth column for the IAEA and the friends of the NPT.

III. Sino-Indian relations

The period since India's policy reversal on the test ban has witnessed a strange irony. As outlined by Hua Han, relations between India and China have improved markedly since Prime Minister Rajiv Gandhi's

visit to Beijing in 1988 and have been free of armed clashes since at least 1987. The 1990s have seen serious negotiations to resolve differences over the border, culminating in an agreement to reduce troop numbers, signed in December 1996.

Nevertheless, Indian officials and observers abroad have cited the supposed threat which China poses to India's security with increasing frequency during the recent debate over the test ban, claiming that India's nuclear option is justifiable as a hedge against Chinese expansionism. Their claim is not only cynical but inconsistent with the history of Indian defence planning. China and India have never made planning for conventional or nuclear war against one another a high priority. Nuclear weapons are hardly relevant to minor border disputes like the one between the two Asian giants, and as one would expect the Sino-Indian dispute does not appear to have affected nuclear decision making in either country. Finally, even if nuclear weapons were relevant to the border dispute, the test ban would not harm India's nuclear option significantly. Each of these points is discussed further below.

While it is true that India established its mountain divisions and redoubled its arms build-up in response to the 1962 Sino-Indian war, even then Indian arms procurement was dominated by programmes that were not important for nor well suited to combat with Chinese forces in the Himalayas.[11] In the years that have followed, Indian arms procurement has been driven by other missions, whether Pakistan or South Asian hegemony, and bureaucratic imperatives. While India has emphasized the strike capability of its air force, it has never bought an aircraft capable of striking a major Chinese city farther away than Lhasa in Tibet.

Although the DRDO has devoted some resources to developing technologies that could be used for an IRBM, the programme was never related to a formal military requirement from the armed forces and has only received a total of $15 million since its inception. After a programme of three tests, none of which exceeded 1500-km in range, no more funds were appropriated. Under the circumstances, the Agni—as the project's test missiles were known—must be seen as a vanity programme for the DRDO, which justified its existence as much on the basis of its contribution to the design of an

[11] Blackaby, F. *et al.*, SIPRI, *The Arms Trade with the Third World* (Penguin: London, 1975), pp. 183–86.

intercontinental ballistic missile (ICBM) to deter US intervention in the region as on that of the putative threat from China.[12]

With respect to the nuclear programme, India conducted its first nuclear test in 1974, at least 10 years after it would have been possible if China had been the intended audience. Since then India has done little to exploit the nuclear option in order to deter China, even when relations have soured and war appeared possible. India's possible nuclear delivery systems—its Su-30, Jaguar and Mirage 2000 fighter-bombers—cannot reach into China beyond Tibet, and there is no evidence that India has attempted to acquire longer-range bombers, although the Soviet Union supplied them to other customers of lower standing in the Soviet hierarchy of friends, including China, Egypt and Iraq.[13]

As for China, there is little evidence that it has prepared for significant conflict with India. The clash in 1962 and those since have been handled in an ad hoc manner by forces in theatre without even the benefit of air cover. Chinese military personnel say that the People's Liberation Army (PLA) does not plan for war with India.[14] Academics and current and retired diplomatic professionals do not take the possibility of war with India seriously.[15]

China's military forces are now configured according to the military reforms of 1985, which are based on the assumption that China will not fight a major war for several decades but must be prepared to fight limited wars, primarily on the eastern border. Preparing for a possible 'war of secession' against Taiwan is the highest priority. Although some of the technology acquired in China's measured effort to modernize the PLA is inherently capable of being used against India, little of it is likely to be found in the Tibet military region.

China's nuclear weapons were originally developed in response to US threats made in the 1950s. Since then new Chinese systems have been justified with respect to the US or Soviet targets they could reach. As China's military doctrine has turned away from planning for major, possibly nuclear, war, modernization of the strategic missile forces has continued of its own momentum, perhaps because of

[12] 'Agni, Prithvi not shelved', *The Pioneer* (Delhi), 22 Dec. 1995; and Mahapatra, R., 'Surya, India's ICBM project', *The Probe* (Allahabad), May 1994.

[13] India, often the first customer to receive new Soviet systems, did receive the intercontinental Tu-154 Bear in 1988, but only in its maritime patrol configuration.

[14] Personal communication, Sep. 1995.

[15] Personal communication, July and Nov. 1996.

bureaucratic imperatives and a concern for their prestige value.[16] These strategic systems are of no relevance to India. In contrast, there is reason to believe that nuclear systems of greater concern to India are atrophying as a result of military reform. Some observers believe that the strategic bomber force and tactical nuclear weapons are unnecessary and being dismantled, and at least one IRBM project has been cancelled.[17]

Finally, even if India's nuclear option were a necessary hedge against China, as it is argued to be by Indian opponents of the CTBT, nuclear testing is not necessary for India to deploy nuclear weapons, which in any case are not needed given the deterrent effect of the option as it already exists. If India does not need to test, it need not refuse to sign the CTBT. Furthermore, even if India did sign the CTBT and needed to test because of a hypothetical Chinese threat of invasion, it could withdraw from the treaty citing its national interest, just as any state party can.

In any case, India should take comfort in the new Chinese attitude demonstrated not only by progress in their bilateral border talks but in the political leadership's veto of the military's request for more tests that they said were required, perhaps up to the CTBT's entry into force (no sooner than 1998 and never without India's signature and ratification).[18] Although the additional tests would not have directly harmed India's security in any appreciable way, the assertion of political control over the military and the military's acceptance of civilian decisions bode well for responsible behaviour on the part of China internationally.

[16] Di Hua, 'Threat perception and military planning in China: domestic instability and the importance of prestige', ed. E. Arnett, SIPRI, *Military Capacity and the Risk of War: China, India, Pakistan and Iran* (Oxford University Press: Oxford, 1997), pp. 28–31.

[17] On the bomber force, the Japan Defense Agency's annual *Defense of Japan* suggests that the strategic bomber force was deactivated in 1984. See also Litai Xue, 'China's military modernization and security policy', *Korean Journal of International Studies*, vol. 24, no. 4 (1993), p. 497. On the cancellation of the DF-25 IRBM, see Arnett, E., 'Chinese blow cold on East Wind missile plan', *Jane's Defence Weekly*, 4 Dec. 1996.

[18] Arnett, E., 'The Comprehensive Nuclear Test-Ban Treaty', *SIPRI Yearbook 1997: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1997), pp. 403, 405–406, 410.

IV. Pakistan's domestic politics

Pakistan's inability to capitalize on the opportunity to put India on the diplomatic defensive has been as disconcerting as India's volte-face on the CTBT. A decision by Pakistan to sign the CTBT would leave India isolated, since only North Korea has not yet signed among the other 42 states with nuclear reactors that must sign the treaty before it can enter into force. Pakistani policy on the CTBT has been reactive in the extreme, essentially ceding the initiative on the issue to India. When fears arose in the autumn of 1995 that India might conduct a nuclear test, Pakistan immediately threatened to test in response. No technical rationale for a test was put forward. When India refused to sign the CTBT, Pakistan said that it too would refuse.[19]

Samina Ahmed explains the domestic context that gives rise to this thoughtless and counterproductive approach to arms control. It appears that the Pakistani Government has lost control of its policy domestically as well. In seeking to bolster support for the nuclear option and the costly decision not to sign the NPT, Pakistani politicians have created a dynamic in which any concession to international control of nuclear policy can be used as lethal ammunition in the debate that characterizes contemporary politics. In such a context, bold leadership—even when it could on balance serve the national interest—is tantamount to electoral suicide, as acknowledged in a moment of candour by President Farooq Leghari.

It is tempting to imagine a more nuanced debate of the nuclear issue in Pakistan, a society that demonstrates a high calibre of thought in other areas. As Ahmed demonstrates, however, this is unlikely without further political reforms. While the return to civilian government and the recent strengthening of the prime minister's position are important steps in the right direction, structural obstacles exacerbated by acute social problems remain daunting. Most importantly, the civilian government still relies on the military for political stability. Furthermore, independent critics are few and far between. Those who do emerge are hampered by a lack of information,[20] as well as a public that has a high rate of illiteracy and is not responsive to their message.

[19] Perkovich, G., 'Misperception and opportunity in South Asia', *Studies in Conflict and Terrorism*, no. 19 (1996), pp. 417–18.

[20] This lack of information makes it impossible to characterize Pakistani nuclear, security and science policies as carefully as has been done for India (section II). The poor reliability of Pakistan's Kanupp reactor, which can be ascribed to its international isolation just as that

Indeed, the response of the Pakistani public to the nuclear issue is the most fundamental concern, especially if political reform increases the electorate's influence over policy in greater measure than it increases their sympathy with new perspectives. If so, the outlook for a change of approach is not good. Even if literacy and openness improved, it seems most likely that social conditions in Pakistan will continue to make the few apparent successes of the nation—the nuclear programme and the F-16s count high on the list—extremely popular and keep sceptics in an untrusted minority.[21] As a result, even a prime minister as strong and conciliatory as Nawaz Sharif in his second term is unlikely to take the step of unilaterally signing the test ban, even though it would be to the net advantage of the country.

V. Steps towards greater stability

The remaining question, then, is whether there are other steps that can be taken—either through negotiations or unilaterally—to reduce instability in South Asia. There are at least three sources of instability in the current South Asian situation which are generally overlooked in discussions of the region, as discussed in chapter 5. The first is a difference in perception between Indian and Pakistani élites regarding the risk of war. The second is a difference between Indian and Pakistani expectations of how a war would unfold. The third is the incentive which Indian war plans offer Pakistan to deploy ballistic missiles, which are generally agreed to be a threat to stability.

The risk of war

Recent statements and writings of Pakistani officials suggest that they underestimate the risk of war. Indeed, the perception is gaining currency that Pakistan's nuclear option makes war in South Asia very

of its Indian counterparts can, is shown in table 1.4. Pakistan's annual budget for military R&D is only about $4 million, but the total cost of the nuclear programme is likely to be many times greater. On Pakistan's military R&D policy, see Arnett, E., 'Military research and development', *SIPRI Yearbook 1997* (note 18), p. 216; and Arnett, E., 'Military research and development in southern Asia: limited capabilities despite impressive resources', ed. Arnett (note 16), pp. 259–60.

[21] As one critic has put it, Pakistan's nuclear bomb 'dispels the gloom' of its failure to solve its other problems and rise above the lowest ranks of the world's states in most indices of development and human well-being. Hoodbhoy, P., 'Pakistan's nuclear future: capping the nuclear program', eds D. Cortright and S. Ahmed, *Pakistan and the Bomb: Public Opinion and Nuclear Options* (Notre Dame University Press: Notre Dame, forthcoming).

unlikely. Some Pakistani officials hope that the nuclear umbrella will prevent an Indian military response to the support of Kashmiri insurgents. This expectation is at odds with both the mainstream academic understanding of nuclear deterrence and what is publicly known about Indian planning for conventional war. The Indian military seems to believe that Pakistan would not dare to use nuclear weapons first for fear of nuclear retaliation, so India will remain free to make use of its conventional superiority. The resulting mismatch of perceptions could easily lead to a scenario in which Pakistan overestimated the level of provocation that India would tolerate, leading to war.

How a war would unfold

The few statements by Pakistani élites acknowledging that war is still possible suggest that Pakistan would feel compelled to use nuclear weapons early, a policy Deshingkar aptly terms 'nuclear volatility' in chapter 2. This stems in part from their understanding that they can only hope to use nuclear weapons to deter India from limited conventional war if the risks appear very high indeed. Indian planners, however, appreciate that the Pakistani leadership will always have an incentive in a limited war not to invite Indian retaliation (as well as international opprobrium) by using nuclear weapons first.

Indian war plans appear to include immediate air attacks with smart bombs against Pakistani air bases, strategic defences, and command and control facilities—if not nuclear facilities—and their understanding of how a war would take its natural course is quite different. Since Pakistan's nuclear command and control and delivery systems could be worn down by Indian air attacks fairly quickly, there exists the risk that Pakistani leaders would be deciding whether to use nuclear weapons at a time when they lacked information about the actual situation and perhaps feared losing control of the nuclear forces outright. This asymmetry in the expectations of the course of a war and likely thresholds for nuclear use suggests that the danger of nuclear escalation is greater than is generally appreciated.

Incentives to deploy ballistic missiles

Most observers, even those who believe that a stable nuclear balance is possible in South Asia, agree that ballistic missiles can be destabilizing. The most convincing reason given is that ballistic missiles only

achieve their advantage of relative invulnerability when they are dispersed from their bases. When dispersed, they are likely to be in intermittent communication with the national command authority, suggesting that launch authority might be granted early in a war to avoid the situation in which communications are disrupted and launch thereby becomes impossible. Early devolution of launch authority necessarily entails an increased risk of accidental or unauthorized use.

To date, no nuclear-armed ballistic missiles have been deployed in South Asia. As Indian strike squadrons steadily improve their ability to destroy Pakistani air bases, where the aircraft on which Pakistan relies for nuclear delivery are housed, Pakistani planners have a much greater incentive to deploy nuclear missiles. These incentives will increase further as Indian defences against combat aircraft improve.

VI. Conclusions

While there remain risks of war and nuclear weapon use in South Asia, there is little interest in serious arms control, at least from the demand side. This is true in part because the purported costs of the nuclear options are not as great as some observers suggest, and what costs there are can be hidden. As a result, there is little complaint from the Indian scientific community about R&D related to the nuclear option crowding out other scientific pursuits. It does not. The cost and risk of the nuclear energy sector are seldom understood to be connected with the DAE's international isolation, a consequence of India's remaining outside the NPT.

States seldom pursue arms control as a goal in itself. Arms control has had its greatest successes when specific risks to mutual security are identified and addressed, as they were by the major bilateral treaties at the end of the cold war era. Unfortunately, the sources of instability in South Asia are more difficult to address through arms control, even if the sides were willing. The first two sources of instability identified in this report depend upon differing perceptions that can only really be harmonized if the occasion for conflict is removed. Bans on aid to insurgents, first use of nuclear weapons, strike aircraft or war itself are not credible tools, although it would be useful for both sides to de-emphasize these means of furthering their interests.

Similarly, the US Government's insistence that Pakistan should not deploy survivable ballistic missiles only makes sense if India does not amass the wherewithal to destroy Pakistan's other delivery systems. Yet strike aircraft and smart bombs are the very stuff of the Revolution in Military Affairs that has fascinated military professionals in every major country. Not only is India not atypical in shopping for smart bombs; it has already succeeded in acquiring more than it needs.

In a region where arms control does not appear to offer solutions and in which those solutions probably would not be pursued even if they did exist, the natural alternative is to seek a role for outsiders. The results of this study suggest that those outsiders must consider their role more fully. Most importantly, the goals of selling conventional arms to India and preventing Pakistan from deploying ballistic missiles are contradictory and put the burden of that contradiction solely on Pakistan, which must either accept the growing vulnerability of its air force or suffer the consequences of deploying ballistic missiles. More importantly, the burgeoning Western academic literature that reflects back to Pakistani leaders their dream of a nuclear deterrent that shields even the most provocative measures in support of Kashmiri insurgents is not only analytically weak, but feeds the very misperceptions that make nuclear war more likely.

2. Indian politics and arms control: recent reversals and new reasons for optimism

Giri Deshingkar

I. Introduction

Unless the Indian polity reorganizes itself as a Second Republic with a new constitution, a new electoral system and a newly structured executive, India will continue to be governed by what can best be termed 'coalitions with Indian characteristics'. Such coalitions are usually headed by political parties which have seats in the Lok Sabha (the lower house of the parliament) far short of even a simple majority (272 in a house of 542) but their rule is made possible through support given by political parties from the outside, that is, without joining the ruling coalition. Another peculiarity of coalitions with Indian characteristics is that the ruling group of parties comprises a number of provincial parties whose political agendas are dominated by local, not national, issues.

Such a political structure has produced a division of interests. Only the parties with an all-India reach, however thinly spread, in the ruling coalition or in the opposition have anything to say about larger national and international issues such as defence, economic strategy, foreign policy, nuclear policy and approaches to disarmament. The provincial parties leave such issues to their national partners in the coalition. However, the national parties which support the ruling coalition from the outside as well as those in opposition, because of their positions in the parliament, tend to hold adversarial views on national and international issues. Thus, while the United Front coalition of 14 parties, which lasted for about 10 months after the 1996 general election, would not go beyond keeping the nuclear option open, the Bharatiya Janata Party (BJP) passed a resolution within its party forum saying that it would undertake a weaponization programme if it came to power.[1]

[1] BJP National Election Manifesto, 1996, p. 37. The BJP promises to 'reevaluate the nuclear policy and exercise the option of nuclear weapons'.

This is not all. The strength or fragility of the ruling coalition and the distance from power of the national parties in the opposition also shape their publicly articulated views. A strong coalition can take strong initiatives in national or international matters but a weak one must guard against being accused of a sell-out. So, paradoxically, not only can a weak coalition not take any initiatives; it must also put up a show of staunchly defending perceived national interests. As for the parties in opposition, they tend to strike bold poses, knowing full well that the chances of their being made accountable for a defiant stand are small; they are too far away from coming to power.

So-called public opinion has a curious role to play in a situation like this. Public opinion in India in any true sense of the term is indifferent to issues of defence, foreign policy or nuclear weapons. Political parties know this and they seldom refer to such issues in their election campaigns. No serious points on these issues are ever debated in the Indian Parliament. However, there are a few pressure groups in the country, minuscule in a country of 950 million people but highly vocal, which describe themselves as representing public opinion. They mount campaigns in the national media and are stridently vocal in seminars held in New Delhi; in fact, they go to and organize such seminars to promote their line of thinking.

Among these lobbies, the ‘hawks’ enjoy a natural advantage over the ‘doves’ in as much as the hawks don the mantle of patriotism and shout down the doves as foreign (i.e., Western) agents, recipients of received (i.e., Western) wisdom, ignorant of *realpolitik* and so forth. The hawks have been a permanent fixture of the New Delhi scene but strong governments in the past have largely ignored them, occasionally even used them. Weak coalitions, however, which have been the norm in recent years, cannot ignore them; in fact, they can use a weak government to translate their views into policy.

Even 50 years after India became an independent country, there hardly exists any expertise on matters of defence, foreign relations or nuclear policy outside the government. The national political parties have failed to develop such expertise. High levels of secrecy have made ignorance among the parties, academics, journalists and the people even more profound. In this situation, the hawks can easily arouse insecurities and fears and get away with half-truths, innuendoes and occasionally outright falsehoods.

The bureaucracy has some expertise and experience but has a tradition of tendering advice which it thinks the political leaders want. It is, of course, one element in the government which has a sense of policy continuity, but when it comes to a strong government departing from established policy the bureaucracy is always available for the required endorsement and elaboration. Thus, the bureaucracy supported the policy of low defence expenditure and friendship with China during the 1950s and a militant anti-China policy together with high military expenditure in the 1960s and 1970s. It was fully against nuclear weapons until India decided to create a nuclear option which led to India's nuclear test of 1974. The bureaucracy has never been an insurmountable obstacle for a strong political leadership. But today's India has no strong leadership.

II. The roots of political inertia

Since China exploded its first nuclear device in 1964, hawkish opinion has insisted on acquiring nuclear weapons for India. The demands became more strident as the Chinese nuclear arsenal grew. Against this background, Dr Vikram Sarabhai, head of the Department of Atomic Energy in the 1960s, drew up his ambitious 'Profile' for India's nuclear programme.[2] Peaceful nuclear explosions formed a part of that programme.

The Indian elephant moves slowly and often in an uncoordinated manner. After the initial panic generated by China's nuclear weapon programme, things lapsed into a relaxed pace. It seemed that the Indian Government had learned to live with China's rapidly developing programme. China had scrupulously avoided saying anything that could have been construed by India as a nuclear threat. The 'Sarabhai Profile' finally did produce a nuclear device in 1974 but a parallel programme of the Indian Space Research Organization (ISRO) to build carrier rockets lagged far behind.

Meanwhile, in the UN as well as in other forums, India continued to press its original proposal for a test ban, first made in 1954. Before the Chinese nuclear explosion of 1964, India had been an enthusiastic supporter of non-proliferation. Jawaharlal Nehru, then India's Prime Minister, asked his Ministry of External Affairs to seek to be the first

[2] Indian Atomic Energy Commission, *Atomic Energy and Space Research: A Profile 1970–1980* (Government of India: New Delhi, 1970).

to sign the PTBT. Nehru died before the Chinese explosion and India's nuclear policy changed radically after that. After negotiations for the NPT began, India toyed with the idea of signing the NPT if positive assurances about protecting India against a presumed Chinese nuclear threat were available, but the assurances which were offered by the USA and other Western powers were not found satisfactory.

India's nuclear policy, if not exactly volatile, has been an oscillating one. On one issue, however—that of the comprehensive test ban (CTB)—it was steady. By labelling the explosion of 1974 a peaceful one, India could claim that it was not going against the banning initiative, which it conceived only in terms of tests for the purposes of developing weapons. Continuing with this logic, India could have carried out a series of peaceful explosive tests if the international reaction to the 1974 test had not been extremely adverse. Its visible manifestation was the Canadian cancellation of all nuclear technology assistance to India's nuclear power industry; Canada was the chief provider of technological assistance to India's reactors. The other, less direct, manifestation was the setting up of the Nuclear Suppliers' Group,[3] which made it impossible for India to acquire any, even dual-purpose, technology on the international market. Lastly, the Western countries and Japan exerted enormous pressure on India through private channels. Prime Minister Indira Gandhi reacted angrily to all this but was unable to defy international pressure.

Whatever the frustrations privately suffered by its nuclear establishment, India's public stance continued to occupy the moral high ground on the questions of the test ban and complete nuclear disarmament. In 1988, then Prime Minister Rajiv Gandhi made his proposal which was publicized as a bold initiative on behalf of the non-aligned countries and indeed the developing world as a whole.[4] Annual resolutions in the UN General Assembly were also ritually tabled.

[3] Also known as the London Club, the NSG coordinates multilateral export controls and in 1977 agreed the Guidelines for Nuclear Transfers (London Guidelines), revised in 1993. In 1992 the NSG agreed the Guidelines for Transfers of Nuclear-Related Dual-Use Equipment, Material and Related Technology (the Warsaw Guidelines, subsequently revised).

[4] Gandhi laid out a 3-stage programme for complete nuclear disarmament and a 'comprehensive global security system' by the year 2010. The CTBT was to be negotiated in the first stage. Gandhi, R., World Free of Nuclear Arms, Address to the Third Special Session on Disarmament of the UN General Assembly in New York, 9 June 1988, reprinted in Gandhi, R., *Statements on Foreign Policy April–June 1988* (Ministry of External Affairs: New Delhi, 1988), pp. 60–92. In Dec. of the same year, Gandhi travelled to Beijing and began the era of reconciliation with China.

In the 1989 general election the Congress Party, which had held power since 1947 except for two years, was decisively defeated and since no political party had the majority to form the government the era of coalition politics began. The short-lived coalitions under Chandra Shekhar and V. P. Singh were so preoccupied with the struggle for survival that they had no time to think about nuclear issues. In the absence of any new directives from the political leadership the bureaucracy simply carried on with established precedents: that is, pushing for complete nuclear disarmament and for the CTB.

III. Narasimha Rao's Government and the CTB

P.V. Narasimha Rao's Government after the 1991 election was also a coalition, his Congress Party being the strongest partner but a little short of a majority. But for one or two crises, it remained relatively stable—stable enough for the prime minister to think about long-term policies including nuclear policy. The cold war had ended, the Soviet Union had collapsed and the USA had emerged as the dominant power in a unipolar world. India's foreign policy had to adjust quickly to this emergent reality.

While the bureaucracy had few new ideas to offer, Rao embarked on a series of new initiatives. He started to liberalize the Indian economy and took concrete steps to improve relations with China and with the USA. It was during the first three years of his premiership that he seems to have taken a fresh look at India's defence and nuclear policies. During this time Bill Clinton was elected US President and the USA, too, was rethinking its nuclear policies, clearly moving towards accepting the CTB, to which it had been opposed throughout the 1980s. Given India's consistent advocacy of the CTB, Rao decided to join the USA in co-sponsoring a resolution in the UN General Assembly to negotiate the CTB at the Conference on Disarmament (CD) in Geneva. India co-sponsored the CTB resolution in 1993 and 1994. There is no evidence that the nuclear establishment or the bomb lobby opposed this.

That lobby was taken by complete surprise, indeed shocked, when the USA and Russia both supported a test ban despite disagreements over the treaty's scope. More importantly, to the lobby's great alarm, it seemed that China, too, was moving towards accepting a test ban under certain conditions. The Indian Government realized that it could

forcefully advocate a test ban only so long as there was no possibility of it becoming a reality; it could profess high principles and keep the Indian nuclear option open as a marker of protest against discriminatory global regimes. Once a non-discriminatory test ban appeared achievable, however, India's option threatened simply to disappear, for political reasons more than technical.[5]

The fact that the 20th anniversary of the Pokhran test fell in 1994 added to the urgency of determining what a test ban would mean for India's nuclear programme. Twenty years had passed without a test. India's nuclear laboratories were presumably busy improving the 1974 design, but how were the new designs to be tested? The scientists were clearly of the opinion that testing was absolutely necessary, but no political clearance for carrying out tests could be obtained. Now that a test ban had appeared on the horizon, political clearance for a series of tests before a test ban was concluded became a matter of extreme urgency. It is difficult to know whether the Department of Atomic Energy was, in fact, in a position to carry out a series of tests even if it were directed to do so by the prime minister (who has always had the charge of that department) but given the acute anxiety expressed by retired nuclear scientists (who were obviously speaking for their colleagues still in the department) it seems that the prime minister did not approve of carrying out any tests.

For the 20th anniversary of the Pokhran test, Indian newspaper correspondents went round the country to get the views of both nuclear and space scientists. No scientist was prepared to speak on record; some would not even speak off the record. It was clear, however, that they were bitter and angry at the government. One of them spoke privately of the 'fear psychosis' in the Prime Minister's Office because of US pressure. They were of the unanimous view that India must not 'wilt under any sort of pressure', as one of them put it. 'The country cannot afford to allow a cap on its nuclear and missile development programmes'.[6] Only one retired scientist, P. K. Iyengar, who had designed the Pokhran device, said openly: 'To cap efforts in these areas is to restrain experimentation and thus cripple research and development': testing was 'a must' to improve the weapon designs.[7]

[5] Deshingkar, G., 'India', ed. E. Arnett, SIPRI, *Nuclear Weapons After the Comprehensive Test Ban: Implications for Modernization and Proliferation* (Oxford University Press: Oxford, 1996).

[6] 'Don't compromise on N-plans: scientists', *Times of India*, 18 May 1994.

[7] *Times of India* (note 6).

The prime minister refused to budge. Earlier, on 13 April 1994, addressing a meeting of the army commanders, Rao had linked India's stand on the NPT or 'similar non-proliferation regimes' to Pakistan's possession of nuclear weapons. The opposition BJP reacted angrily and wrote a letter to Rao accusing him of softening India's opposition to the NPT. In his reply, Rao clarified his position: 'We are not saying that we have set our face against [the NPT] under all circumstances . . . Our stand is to bring [the NPT] in line with what India can accept'.[8] Another indication that Rao was in favour of a change in India's nuclear policy was that he had changed the entire team of Ministry of External Affairs officials selected for negotiating with the USA on nuclear issues.[9] This created a great deal of dissatisfaction within the ministry. The fact that India dropped a resolution it had earlier tabled in the UN calling for total nuclear disarmament also added fuel to the fire.[10]

In this atmosphere, Prime Minister Rao's July 1994 visit to the USA had to be handled very carefully in the Indian media. Much was made of economic cooperation and references to discussion of nuclear matters were kept to a bare minimum. President Clinton was quoted in one report as saying that the USA wanted to know what was 'pivotal' for India's security and promised to work for that.[11] What was pivotal, India seems to have clarified, was cooperation between China and Pakistan in defence and nuclear weapon technology. The USA then suggested that it would seek China's cooperation for achieving non-proliferation in South Asia.[12] Only bits and pieces of what passed are available in the Indian media. It seems that the USA proposed a five-nation 'regional security dialogue' involving China, India, Pakistan, Russia and the USA. India wanted it expanded to involve Iran, Israel and Kazakhstan as well. As was to be expected nothing came of this, but India specifically rejected a role for China as a 'guarantor' of commitments undertaken by Pakistan on non-proliferation in South Asia.

Rao had noted the opposition from the nuclear and space establishments and the attempts to sabotage the changes he wanted to bring

[8] 'Rao stands firm on nuclear issue', *Times of India*, 20 May 1994.
[9] Joshi, M., 'The hovering eagle: different US strokes in South Asia', *Times of India*, 19 Apr. 1994.
[10] *Indian Express*, 16 Apr. 1994.
[11] *Times of India*, 19 May 1994.
[12] Noorani, A. G., 'Nuclear view II: the USA's three track approach', *The Statesman*, 22 July 1994.

about in India's nuclear policy, but he still did not abandon his quest. It was only in January 1995 that he decided not to have India participate in the NPT Review and Extension Conference as a concession to the opposition. Even as late as February 1995, however, India's participation in that conference as an observer remained a distinct possibility. According to J. N. Dixit, who as Indian Foreign Secretary had participated in the India–USA dialogue, India had categorically ruled out signing the NPT but had nevertheless agreed to work for the CTB and the fissile material cut-off treaty (FMCT).[13]

Perhaps because Rao had explicitly committed India to supporting the FMCT,[14] the debate in the Indian media during the first half of 1995 was devoted to the desirability of India acceding to it. It was not an informed debate since the commentators had almost no facts about fissile material production or stockpiles in India. Much of it was devoted to the argument that, while the declared nuclear powers had huge stockpiles of fissile materials, India's stock was bound to be small and this would put India in a disadvantageous situation.

There was still little debate on the CTB. The indefinite extension of the NPT changed the atmosphere during the second half of 1995. That an overwhelming number of non-aligned states had agreed to the NPT extension came as a shock to Indian nuclear opinion makers. Their simple explanation for this was US pressure. With the NPT extension, however, opinion makers in India began to oppose all the non-proliferation regimes which India had advocated for decades and which the USA was prepared to accept after rejecting them all along. The self-congratulatory tone—at last the USA has seen the light of Indian wisdom—suddenly changed to that of hostility towards all proposals put forward by the USA, the West as a whole and Russia. The CTBT which was to follow the NPT extension became the next target.

A series of articles now began to appear in the Indian media denouncing the CTBT as a deeply flawed and discriminatory measure designed to stop India on the learning curve and to abolish India's option permanently. The authors of these articles, almost all from New Delhi and almost all in favour of India developing a fully-fledged nuclear arsenal, met in a new round of seminars organized by

[13] Dixit, J. N., 'India won't give in', *Indian Express*, 21 Mar. 1995.

[14] McDonald, H., 'Nuclear niceties: NPT holdout offers a fissile-materials ban instead', *Far Eastern Economic Review*, 2 Feb. 1995, p. 16.

well-known think-tanks to reinforce each other's views and to 'educate public opinion'. These created an atmosphere in the capital in which views supporting the test ban were at best regarded as misguided under the influence of Western conventional wisdom or at worst as amounting to treason.[15]

The orchestrated argument ran as follows: the CTBT, as its rolling text then stood, would not at all be 'comprehensive' since it would not shut down the nuclear weapon laboratories and the testing facilities of the nuclear weapon powers. Despite accepting zero yield, these powers, perhaps with the exception of China, would do computer simulations with the codes already obtained from their previous tests in order to come up with new designs specifically meant for use against non-nuclear weapon countries. The sub-critical tests involving fissile materials announced by the USA proved the point. Moreover, the USA had announced the setting up of the National Ignition Facility to keep itself at the cutting edge of nuclear weapon technology. It was also rumoured that the USA would not only share technology with the UK and France but also with China, thus maintaining the oligopoly of the five declared nuclear powers.[16] As the most technologically advanced state in the developing world in nuclear matters, India must challenge this oligopoly not only on its own behalf but on behalf of those states which could not stand up to pressures from the USA.

While public opinion was being tutored in this vein, the government remained non-committal. The record of discussions and negotiations in the CD shows that the Indian delegates did not frontally challenge the CTBT as it was shaping up in Geneva. In fact, in April 1995 the Indian delegate to the CD was heard to complain that the negotiations were proceeding at too slow a pace and he wanted the nuclear weapon powers to show the political will to increase the pace.[17]

Even as late as the end of 1995, India was moving towards joining the CTBT. This was despite the fact that articles attacking the CTBT, including those from the government-supported strategic think-tanks,

[15] For an early example of the commentary during this period, see Subrahmanyam, K., 'Nuclear rivalry: India must keep options open', *Times of India*, 14 Sep. 1995. Subrahmanyam had begun expressing doubts about the CTB in 1994: Subrahmanyam, K., 'CTBT: time for level playing field', *Economic Times*, 29 Aug. 1994. An atypical statement in favour of the CTBT at this time came from a retired Chief of Army Staff: Sundarji, K., 'The CTBT debate: choice before India', *Indian Express*, 4 Dec. 1995, p. 8.

[16] Arnett, E., 'Nuclear club gets clubbier', *Bulletin of the Atomic Scientists*, May/June 1996, p. 12.

[17] Abraham, T., 'N-powers dragging feet on test ban talks', *The Hindu*, 13 Apr. 1995.

had kept up a steady barrage. Government officials were on the defensive. Still, clear directives from the highest government authority had not been sent down. The nuclear and space scientists were advising the government that signing the CTBT would mean the end of the nuclear weapon programme.[18] Lone voices advocating that India should sign the CTBT after proposing some amendments were contemptuously silenced by the simple expedient of questioning their patriotism.[19]

For some time before the general election, it had become clear that Rao's Congress Party faced a rout. Perhaps as a result of so much adverse reaction both within and outside the government, Rao tried to limit his vulnerability and decided not to sponsor any resolution in the UN General Assembly urging the countries in the CD to work for a CTBT.[20] It is thought by many observers that he wanted to dilute India's earlier commitment; by allowing the hawks to criticize the existing contents of the CTBT 'rolling text', India would seek to amend the text to make the treaty much more comprehensive.

The many amendments India sought were clearly unacceptable to the nuclear weapon powers.[21] For example, India wanted the scope of the treaty to exclude all tests involving fissile material. Similarly, India wanted to link the CTBT to 'genuine nuclear disarmament within a time-bound framework' and for this it wanted the establish-

[18] Some commentators with ties to the nuclear establishment noted that tests were *not* necessary for the Indian option. Sundarji (note 15) made this observation at the time and again in early 1996: Sundarji, K., 'India's nuclear option: ability to strike back', *Indian Express*, 14 Feb. 1996. Others wrote after the political tide had already turned against the CTBT. Raja Ramanna is quoted in 'No need for further N-tests', *The Statesman*, 28 Oct. 1996. See also Balachandran, G., 'CTBT and Indian security: flawed concepts foreclose options', *Times of India*, 3 Sep. 1996.

[19] Typical of the commentary on offer during the period from late 1995 to the 1996 election are: Chellaney, B., 'The nuclear option poses a grave dilemma for India', *Asian Age*, 3 Feb. 1996; Manchandra, R., 'CTBT and India's options', *The Pioneer*, 6 Feb. 1996; Balachandran, G., 'Brave words call for braver action', *Economic Times*, 15 Feb. 1996; Chellaney, B., 'Should India block or stay out of flawed CTB?', *The Pioneer*, 28 Feb. 1996, p. 10; Subrahmanyam, K., 'CTBT negotiations: the case for India's withdrawal', *Times of India*, 7 Mar. 1996, p. 12; Subrahmanyam, K., 'A democratic and balanced debate', *Economic Times*, 21 Mar. 1996; Subrahmanyam, K., 'CTBT issue: merely arms control for the Big Five', *Times of India*, 22 Mar. 1996; and Mudiam, P. R., 'India at nuclear crossroads', *Hindustan Times*, 22 Mar. 1996. The most outspoken critics of India's anti-CTB stance give an account of their persecution in Bidwai, P. and Vanaik, A., 'An open letter to the left', *Economic and Political Weekly*, 18 Jan. 1997, pp. 71–74.

[20] This was the recommendation of Subrahmanyam (note 15).

[21] Arnett, E., 'The Comprehensive Nuclear Test-Ban Treaty', *SIPRI Yearbook 1997: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1997), p. 404.

ment of an Ad Hoc Committee on Nuclear Disarmament in the CD. Given the way Prime Minister Rao's mind always worked—that is to say, that problems would go away if he did nothing about them—it is entirely possible that he thought India's unacceptable additions to the treaty text would prolong the discussions in the CD well beyond the deadline or, better still, the whole process would collapse. However, while buying time, India did not reject the treaty; it adopted the moral stance of improving it. To add weight to the moral posture, Salman Haider, India's Foreign Secretary, declared in the CD on 21 March 1996: 'We do not believe that the acquisition of nuclear weapons is essential for India's security'.[22]

IV. A weak new government

Soon after this, India entered the period of the general election, a period of great political uncertainty. In May 1996, the Rao Government was voted out of power. After an unsuccessful bid by the BJP to form a government (it lasted just 13 days), a United Front coalition of 14 parties with the Congress Party supporting it from the outside formed the government. With this turn of events India's stance on the CTBT changed decisively almost overnight. It seems that a coalition of laboratory scientists, hard-liners in the foreign and defence ministries and hawks from the think-tanks in New Delhi quickly consolidated itself and presented the Prime Minister's Office with a unified view that India needed to stop dithering and reject the CTBT outright despite all pressures. The weak new government, unlike its predecessor, was unable to side-step this bureaucratic-cum-strategic intellectual phalanx. It made a decision which would make it appear strong-willed. On 20 June 1996, Arundhati Ghose, India's chief delegate to the CD, declared in a hard-hitting speech that nuclear weapons were essential for India's security.[23] She further said that India had the sovereign right to make a decision about signing the treaty and would reject the entry-into-force clause. Even so, the issue of whether India, while not signing the CTBT, should allow the treaty to be transmitted to the UN General Assembly still remained. When the deadline approached, the position was taken to block the transmittal.

[22] For a summary of his speech, see *Disarmament and Diplomacy*, Mar. 1996, p. 24.

[23] 'India refuses to sign CTBT: "It is discriminatory"', *The Tribune* (Chandigarh), 21 June 1996.

A coalition of some determined laboratory scientists and hard-liners within and outside the government (many of them retired officials) had won the day, but that coalition had no unified view about what to do next. Having saved the option, should India go ahead and test? Opinion was divided. While this group was critical of the CTBT text as it finally emerged, no credible alternatives were suggested. The issue of the CTB became more firmly linked to a time-bound plan of complete nuclear disarmament but no concrete proposals as alternatives to the step-by-step US–Russian Strategic Arms Reduction Talks (START) process emerged. The day had been won but the future still remained uncertain.

V. Prospects for the future

The United Front Government, having rejected the CTBT categorically, has made this the established policy of the country. It would be extremely difficult for any future government to reverse course even if it wanted to do so. With weak coalition governments, a reversal would be impossible. Yet it cannot be called a robust policy worked out in all its details.

Will a future government undertake tests and production of deliverable nuclear weapons? The BJP's resolution states that if the security conditions so require it will deploy nuclear weapons, but it is unlikely to do so if it ever comes to power. This is in part because it is unlikely to emerge from any election with a decisive majority; rather it will be in coalition with several other parties. Furthermore, whereas it is easy for it to appear defiant when not in power, once in power other priorities would take precedence—economic considerations and international repercussions, for example.

What if Pakistan tests a nuclear weapon? Domestic pressure in India then would mount to fever pitch as it did in the wake of the Chinese test of 1964. It is then possible that India would resort to a tit-for-tat test to assuage public opinion but without embarking on a fully-fledged programme of tests.

Now that opposition to the CTBT has been signed and sealed as India's firm stand—'India will not sign it; not now nor later' in the words of Ambassador Ghose—such opinion as supported the treaty in the past has now been effectively blunted. There is a long history in India of critics opposing government decisions in defence matters.

Deals to acquire aircraft-carriers, nuclear-powered submarines and deep-penetration strike aircraft, to give only a few examples, have been denounced, often by retired military officials, offering cogent arguments. Such criticism has made no difference whatsoever. The only possibility of India reversing its decision on the CTBT would arise if it became a major issue in a general election in the future. It is very unlikely that this can happen.

The other possibility, even more remote, is that a change of heart on the part of the policy makers will be brought about by intense pressures and isolation which begin to hurt beyond what proud nationalism can bear. There have been occasions in the past when pressures have worked but the issues involved—the export of jute bags and water buffaloes to Viet Nam, for example—did not lend themselves to being exploited by opposition parties. The CTBT has now been elevated as a symbol of India's standing up to the great powers; climbing down has become all the more difficult.

The fissile material cut-off

Just as Rao's positive approach to the CTBT could have overcome the standard objections to the NPT, the FMCT could address many of India's non-proliferation concerns if India decided to participate in the negotiations and sign it. In 1997, however, the same lobby which opposed the CTBT is opposing the FMCT as well. There is no possibility of the Indian nuclear establishment agreeing to bring existing stockpiles under the provisions of the treaty; that would completely remove the long-cherished element of ambiguity and perhaps expose the shortcomings in India's nuclear programme. A useful diversion is to link it with complete nuclear disarmament within a fixed time-frame. The debate over the CTBT has made the fixed time-frame a near-sacred principle.

India has always advocated complete nuclear disarmament and world opinion is on its side, but the insistence on a fixed time-frame is a new element in India's approach. The Rajiv Gandhi plan of 1988 mentioned a tentative date (including conclusion of the CTBT by 1994) but not a fixed time-frame as such. A cynical interpretation of why India has lately made a fixed time-frame the major issue of principle could be that it was the most effective way of opposing the CTBT. The more charitable interpretation, of course, is that India

truly thinks that without a timetable there is no hope of eliminating nuclear weapons even in the distant future.

Nuclear laboratories across the world, including those in India, cannot imagine a future without nuclear weapons and in the short term, at least, they would oppose a deceleration of their work. Their great fear is that skills won the hard way would be lost. Once the goal was in sight, funding would also taper off. One established route to acquiring prestige for the nation would be closed.

Do India's political leaders want complete nuclear disarmament and that within a fixed time-frame? At present, they express it as an article of faith. The consequences of universal nuclear disarmament for India are far from Indian thinking. When the opinion makers take up the issue seriously, they are likely to point out that with global nuclear disarmament India would be vulnerable to conventional threats. In the case of South Asia, an expensive conventional arms race would arguably follow. Those who use complete nuclear disarmament within a short time-frame as an excuse to avoid the CTBT can be expected to change their tune when it appears achievable, as happened in the case of the CTBT.

VI. Nuclear weapons, arms control and relations with Pakistan

The link between non-proliferation and conventional disarmament is important for addressing the issues of security for India and Pakistan. In Pakistani thinking, its nuclear capability acts as an equalizer *vis-à-vis* India's superior conventional military power. The Pakistani leaders have convinced themselves that India has stopped short of attacking the western half of Kashmir or indeed further dismembering the country because of its nuclear capability.[24] If for any reason India were to threaten the existence of Pakistan as a state as presently constituted, they expect to use nuclear weapons against India first. With a doctrine of this kind, which can usefully be termed 'volatility', Pakistan would not be deterred by India's nuclear capability or even overt weaponization.

The keys to Indo-Pakistani mutual security therefore lie in New Delhi and Islamabad. If a security dialogue between the two is to take place at all, India must make it known to Pakistan through all avail-

[24] For further discussion, see chapter 5 in this volume.

able channels that it has no intention of dismembering Pakistan. In fact, it favours a united Pakistan. It must, as it is doing at present under the United Front Government's 'Gujral Doctrine', settle the disputes over the Siachen Glacier, the Sir Creek and the Wular Barrage.[25] Then it must rapidly move to start a dialogue over the most important problem of all, Kashmir. The maximalist positions on Kashmir on both sides have been held for so long that they are now practically non-negotiable. Without some evidence of interest in mutual accommodation, dialogue cannot begin.

This is where the Government of Pakistan has painted itself into a tighter corner than has India. In India it is possible to propose that the line of control in Kashmir should become the international border. In Pakistan, such a proposal is not acceptable. Even so, there are signs of a change in public mood. During the 1997 general election in Pakistan former Prime Minister Benazir Bhutto adopted a militantly anti-India platform, but her rival Mohammed Nawaz Sharif did not. Sharif won such a decisive majority that Bhutto must have wondered whether she had gone too far with her stand. The Gujral Doctrine's emphasis on 'non-reciprocity', that is to say, not seeking equal concessions from neighbouring countries and not responding to inflammatory statements from Pakistan, has enabled the two countries to begin working towards confidence-building measures, but the issue of Kashmir must wait its turn.

Once Pakistan feels secure within its borders, a security dialogue can begin. India must help Pakistan to achieve that sense of security, with some return from Pakistan in the form of cutting off the infiltration of men and *matériel* into the Kashmir Valley. India must ensure free and fair elections in Kashmir as well as a clean administration there. Then it would be easier to deal with violations of human rights by Indian troops in the valley. In short, Pakistan's sense of vulnerability *vis-à-vis* India's military superiority must be tackled if Pakistan's volatility in nuclear matters is to be limited.

Will future coalitions in India continue with the process started by the Gujral Doctrine? Only a coalition led by the BJP has the potential to alter the course, but it may not do so. Indo-Pakistani relations were

[25] The Gujral Doctrine, named after the United Front Prime Minister and Foreign Minister I. K. Gujral, seeks to improve India's relations with its neighbours, particularly Pakistan. Its features include a unilateral refusal to participate in polemical exchanges, non-reciprocity, a unilateral announcement that its territory will not be used against the interests of its neighbours, tireless dialogue, and cooperation in agreed areas pending solution of larger problems.

at their best when the BJP leader Atal Bihari Vajpayee was Indian Minister of External Affairs in 1977–79. The BJP, when in power, cannot antagonize the 120 million Muslims in India who want good relations between India and Pakistan. It has long held virulent anti-China views but it has now accepted the series of agreements India has signed with China. It is unlikely to put back the clock in the question of relations with Pakistan.

VII. Conclusions

Coalitions with Indian characteristics are unlikely to depart from the well-established policy of keeping the Indian nuclear option open, but they are equally unlikely to start testing nuclear weapons, despite having rejected the CTBT. They may also reject the FMCT, citing the inevitable flaws in the treaty and linking it to complete nuclear disarmament within a fixed time-frame. Opposition to India's rejection of the CTBT is no longer effective and support for an FMCT is also unlikely to have any impact on government decision making. Weak coalition governments will find it difficult to contain and neutralize the bomb lobby within the bureaucracy and outside the government.

India's advocacy of complete nuclear disarmament is likely to go through the same phases as its support for the CTB. So long as the goal looks distant, the full implications of what the treaty would do to India's nuclear programme are overlooked by the nuclear establishment as well as the strategic community in New Delhi. Once the treaty is imminent, however, criticism of the flaws will build up. India's effort regarding the FMCT is not likely to be any different.

Pakistan's two worst fears are the loss of western Kashmir and further dismemberment. Pakistan seeks to overcome its vulnerability by threatening an early nuclear response. This volatility can be contained by India taking the initiative to reduce Pakistan's sense of vulnerability. The Gujral Doctrine of non-reciprocity offers a beginning in this direction. In all probability, future coalition governments in India will continue the process if only under some other name.

3. Sino-Indian relations and nuclear arms control

Hua Han

I. Introduction

China and India both began their nuclear weapon programmes in the 1950s, soon after achieving independence, and both entered a crucial stage in the 1960s. This critical decade began with armed conflict between the two Asian giants in 1962, in which India suffered what it still often refers to as a humiliating defeat. The brief conflict has since cast a long shadow over the course of Sino-Indian relations. When China became a nuclear weapon state in 1964 there was at first 'a feeling of near-panic about the nuclear threat from China'.[1]

Fear of the Chinese nuclear threat was not an over-riding priority for long. It is possible, however, to infer a logic of cause and effect in the developments of nuclear weapon programmes and policies between Beijing and New Delhi, and some contend that 'India's nuclear and missile capabilities owe much to the dynamics of Sino-Indian rivalry'.[2] If this is so, the improvement in their relations since the late 1980s should lead to a dramatic change in their nuclear strategies and bilateral talks on the nuclear issue might be expected to appear on the agenda.

The purpose of this chapter is to review the role of their bilateral relations in the evolution of arms control policies in China and India and its implications for regional and global nuclear arms control arrangements. It analyses three key aspects: (*a*) relations since the late 1940s, which have a bearing on their security perceptions, (*b*) the role of nuclear weapons in the relationship, and (*c*) their approaches to arms control.

[1] Deshingkar, G., 'India', ed. E. Arnett, SIPRI, *Nuclear Weapons after the Comprehensive Test Ban: Implications for Modernization and Proliferation* (Oxford University Press: Oxford, 1996), p. 43. For Indian media reaction to China's first nuclear test, see Sen Gupta, B., *Nuclear Weapons: Policy Options for India* (Sage Publications: Delhi, 1983), pp. 3–7.

[2] Mohan Malik, J., *China's Policy towards Nuclear Arms Control: Post-Cold War Era*, La Trobe Politics Working Papers (La Trobe University: Bundoora, 1994), p. 35.

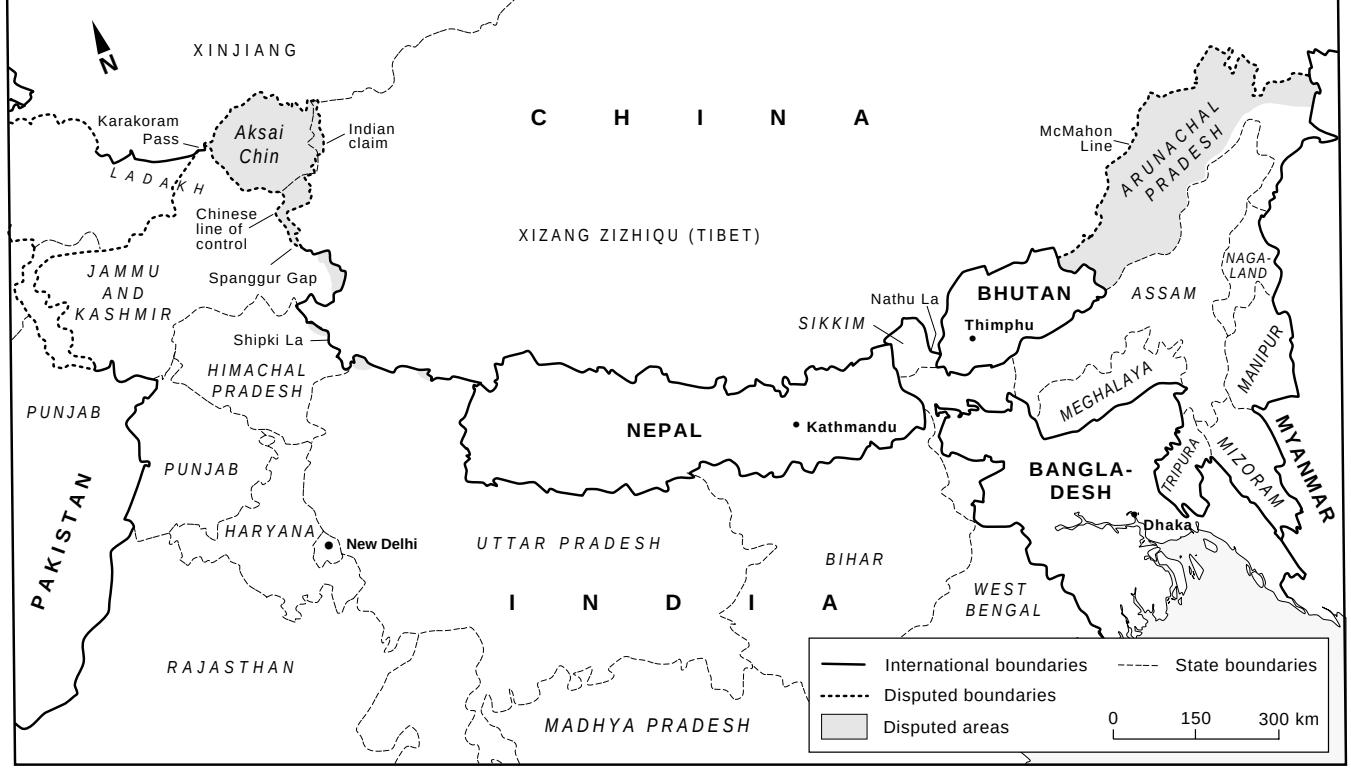

Figure 3.1. Map of the Chinese–Indian border areas

While not entirely rejecting the view that the relationship has been important in the nuclear and arms control policies of both countries, the chapter argues that the linkage between the nuclear weapon programmes of China and India is a loose one. The action–reaction model is not particularly useful for explaining the relations between the two. Each side appears generally indifferent to the other's nuclear activities. Nuclear policy and planning are not necessarily determined by the ebb and flow of their bilateral relations. Instead, they have quite independent orbits. On the basis of these arguments, the chapter suggests that, in comparison with the political and economic spheres, where cooperation has increased significantly, China and India share few common interests in their nuclear arms control policies. While China has been actively involved and shown flexibility in a variety of arms control forums, India's stance has become more sceptical. As a result, improvement in Sino-Indian bilateral relations will not necessarily lead to stronger commitments to international arms control.

II. Sino-Indian relations

India gained independence in 1947 and was the first non-communist country to recognize the People's Republic of China. Through the 1950s the two supported each other in the struggle against power politics at the height of the cold war and decolonization. Chinese Prime Minister Zhou Enlai and Indian Prime Minister Jawaharlal Nehru developed and signed the 1954 treaty enshrining the Five Principles of Peaceful Coexistence, which have since advanced Sino-Indian friendship and been adopted by many countries as guidelines for their relations with other states.

Historical problems were soon to cloud the friendship. In the late 1950s disputes over Tibet and border demarcation came into the open.

The disputes were intensified by the intervention of the USA and USSR, and finally resulted in the 1962 border conflict, which left lasting hostility between China and India that took three decades to recover from.

The Sino-Indian border is among the longest, the most rugged and the least populated in the world. It runs through the highest range of the Himalayas,[3] which both links the two civilizations and divides

[3] The high passes across the Himalayas are at an average altitude of over 5000 m.

them into different geopolitical systems. The border and the status of Tibet have been a source of conflict, although seldom the cause of resort to arms.

There is a traditional line between the two neighbours, but no formal demarcation. The dispute involves three parts which correspond with the east, the west and the middle. The main concerns are in the east and the west. In the east, where most of the 90 000 km^2 of land claimed by China but occupied by India lies, India has claimed all territory up to the McMahon Line,[4] which is not acknowledged by the Chinese Government because of its colonial origins. The disagreement in the west concerns Aksai Chin, which is not important to India strategically but is seen by China as vital to the security of Tibet because of a road connecting it with Xinjiang. India claims 33 000 km^2 in the Aksai Chin region.

For China, Tibet is the core issue in Sino-Indian relations. When the People's Republic of China was founded on 1 October 1949, the Chinese Government proclaimed Tibet an inseparable part of China. Some Indians preferred a Tibet with an independent position. In the early 1950s, however, the Tibet issue did not cause trouble in the cordial Sino-Indian relations. India gave up some of its claims on Tibet in a 1954 agreement with China. Despite minor incidents in the contested areas, major problems did not arise until India expressed sympathy and support for the 1959 rebellion in Tibet and granted permission to the Dalai Lama to set up a 'government in exile' on Indian territory. This was seen as interference in China's internal affairs and damaged Sino-Indian relations.

The territorial dispute was deepened by Nehru's 'forward policy' in the border area. At that time, the main threats to China's security came from the east. The confrontation between China and the United States across the Taiwan Strait and in Indo-China was hot, and the Sino-Soviet split worsened. China did not intend to go to war with India. Even after India built more military posts in territory claimed by China and skirmishes were reported on the frontier, Mao Zedong, chairman of the Chinese Communist Party, tried to maintain an 'armed coexistence' with India. In 1960, Zhou Enlai went to New

[4] The McMahon Line is on the eastern section of the frontier between China and India, running from the eastern end of Bhutan to the great bend in the Brahmaputra River. British and Tibetan negotiators agreed to this boundary at a conference held in Simla, India, in 1914. The line is named after Sir Henry McMahon, the head of the British team. China refuses to accept this line as its boundary with India and claims territory south of it.

Delhi with a package proposal on resolution of the border dispute: China offered to compromise in the east if India compromised in the west. Unfortunately, Zhou came back empty-handed. When armed conflict broke out along the border in October 1962, Chinese observers saw it as the result of Nehru's order for China to leave territory claimed by India. The brief conflict ended with a unilateral Chinese cease-fire after the Indian forces were routed. China pulled out its troops from Arunachal, in the east, and established a demilitarized zone.

The significance of the 1962 border conflict was the greater for the loser, India. India tried to cope with the continued perceived threat from China by approaching first the USA and later the USSR. For its part, China modified its stance on Kashmir from one of encouraging India and Pakistan to resolve the dispute in bilateral talks to one of favouring Pakistan's call for a plebiscite. China also endorsed India's small neighbours' resistance to Indian predominance. In short, since diplomatic relations were established in 1950, Sino-Indian relations have experienced both *Hindi Chini Bhai-Bhai* ('India and China are brothers') and rivalry.

Mao expressed his hope that the war could bring 10 years of peace along the border. In 1997, 35 years have passed without major trouble, but Sino-Indian relations did not return to their previous cordiality. Although both sides tried to open the dialogue, all efforts were in vain. The reopening of embassies in the two capitals in 1976 could not spark the process of normalization. Finally, at the end of the 1970s, the political scenario changed in both countries. Indian Minister of External Affairs Atal Bihari Vajpayee visited Beijing in 1979, the first high-level official visit since the war. In 1982, Huang Hua, China's Foreign Minister, paid a return visit to New Delhi.

The visits resulted in regulated border talks between the two ministries. Despite eight rounds of talks, however, there was no significant progress by 1988. Both sides stuck to their own principles. China's was 'mutual understanding and mutual accommodation', India's was 'mutual adjustment and mutual understanding'. India refused China's suggestion to concentrate on the present and the future while putting aside past difficulties. India preferred linkage: 'no border solution, no better relations'.

India's policy changed in the late 1980s in the wake of Sino-Soviet reconciliation and the 1986–87 border skirmish at Wangdung in

Arunachal Pradesh, which took the two countries to the brink of war.[5] In December 1988 Indian Prime Minister Rajiv Gandhi paid his historic visit to China—the first such visit in 34 years—and the Joint Working Group (JWG) was set up with the mandate to find a solution to the boundary question. Chinese Prime Minister Li Peng paid a return visit in 1991. Finally, Indian Prime Minister P. V. Narasimha Rao visited Beijing in 1993 and the two countries signed the bilateral Agreement on the Maintenance of Peace and Tranquillity along the Line of Actual Control (LAC), a milestone in their relations.[6] It ensures that until the final solution is worked out the two sides will enjoy 'effectively a peaceful border'.

As a result, an expert group of about 10 members from each side was formed to advise the foreign secretary-level JWG on the resolution of differences on the alignment of the LAC. By the end of 1995 the Chinese and Indian armies had pulled back troops from four posts (two on either side) in the Sumdorong Chu valley (Wangdung area) in the north-east and pulled out three divisions (42 000 men in total) of their troops from the border. When Chinese President Jiang Zemin visited New Delhi at the end of 1996, another agreement on reductions along the border and troop movements was signed.

With the end of the cold war, the leaders of both countries realized that they must take a pragmatic and forward-looking approach to their mutual relations. The demise of the USSR left India without a superpower ally. Détente between China and the USSR and then Russia removed an obstacle to normalization of relations between China and India. Since then a Sino-Indian thaw has been under way. India has given up the doctrine that relations could not be improved unless the border dispute was resolved. While the JWG has sought a 'step by step' solution to the border dispute, the two governments have

[5] Garver, J. W., 'China and South Asia', *Annals of the American Academy*, Jan. 1992, p. 68. In Apr. 1987 China reacted to the Indian Army's Exercise Chequerboard, which included the deployment of troops to disputed areas in the north-east, by mobilizing its forces. (India had been stepping up its activities in the north-east since 1985.) No incidents took place, however, and by June 1987 tension was 'conspicuous by its sheer absence', in the words of one Indian journalist, although Chinese troops remained in disputed areas of the Sundorong Chu valley at least until Oct. 1988. Malhotra, I., 'Mixed signals from Beijing', *Times of India*, 2 June 1988; Singh, A. J., 'Rajiv's visit to Beijing: a retrograde step', *Indian Express*, 16 Nov. 1988; and Bhattacharjea, M. S., 'Signals from China II: the hard Wu line', *Hindustan Times*, 7 Oct. 1988.

[6] Agreement between the Government of the Republic of India and the Government of the People's Republic of China on the Maintenance of Peace and Tranquillity along the Line of Actual Control in the China–India Border Areas, 7 Sep. 1993.

improved mutual trust through high-level visits. Economic cooperation has also increased and India is now China's biggest trade partner in South Asia.[7] The two sides have also reassured each other on sensitive issues, India declaring that 'Tibet is an autonomous region of China' and China adjusting its stand on Kashmir by calling for direct talks between India and Pakistan.

After the thaw in relations with India, as Deng averred, 'Neither country poses a threat to the other' and there is 'no conflict of interest' between the two countries.[8] Indeed, most Chinese have less of an enemy image of India than many Indians have of China.[9] From the Chinese perspective, since Indian leaders have assured their Chinese counterparts that India regards Tibet as an autonomous region of China and the border talks have made headway, the two obstacles which used to prevent the two countries from coming closer together have been partly removed.

As a result of these developments, India has sought sound relations with its biggest neighbour, China. During his 1993 trip to China, Prime Minister Rao told his Chinese counterpart that 'geographic propinquity was the elemental factor in relations between China and India and regardless of ups and downs, they have to live together'.[10]

Do they still prepare for war?

The processes of normalizing Sino-Indian relations reflect the need in both countries to resolve remaining historical disputes and ideological differences as well as their respective security perceptions and defence cultures.

As a natural outgrowth of the conflict in 1962, China and India both deployed their armed forces. Border clashes were sporadic.[11] Since the end of the cold war the broader security environment for both has

[7] The volume of trade was over $1.16 billion in 1995, up from $890 million in 1994. Although the volume of bilateral trade is tiny considering the size of the two markets, it has been increasing rapidly. Chinese Ministry of Foreign Affairs, *China's Diplomacy 1996* (International Affairs Press: Beijing, 1996).

[8] *Selected Works of Deng Xiaoping* (Renmin Publisher: Beijing, 1993), vol. III, p. 19.

[9] Sen Gupta, B., 'Need for fresh look', *Hindustan Times*, 28 Aug. 1993.

[10] Klintworth, G., *The Practice of Common Security: China's Borders with Russia and India*, Working Paper 1993/1 (Research School of Pacific Studies, Australian National University: Canberra, 1993); and Reuter, 11 Dec. 1991.

[11] Luo Zudong, 'Strategic patterns of South Asia and Sino-Indian relations', ed. Chen Hefeng, *China and South Asian Relations in the 1990s* (Sichuan People's Printing House: Chengdu, 1995), p. 382.

improved. At the same time, both have realized that the overall capability of any state, not its military strength alone, determines its status in the international system. As a former Chinese ambassador to India put it, both 'want to divert their resources from military to economic development'.[12]

Chinese military planning and reform

For China, the Sino-Indian border was the second priority for military planning after the Sino-Soviet border and China 'appropriately increased its military strength'.[13] Efforts to defend the Sino-Indian border emphasized rapid deployment with airlift and the transport system. It is important, however, to distinguish China's military capability along the border with India from its deployments in Tibet. Some military activity and road construction in Tibet are oriented exclusively to security and development in this autonomous region.

After this build-up, paramount leader Deng Xiaoping initiated economic modernization in the late 1970s and made the strategic assertion in the mid-1980s that world war could be avoided for quite a long time. China's strategic doctrine and defence policy have since been in a process of transformation. With the Sino-Soviet reconciliation, China now enjoys a peaceful environment without any clear threat from other countries for the first time since the opium wars of the 19th century. China has shown its eagerness for peaceful coexistence with other countries, although it still faces security challenges. Military planning priorities have shifted from preparing for large-scale war to planning for limited wars of low or medium intensity on China's border, and China is unlikely to employ its military power unless its vital security interests are threatened.

Compared with other parts of its long border and coastline, the borders China shares with South Asian countries have been relatively peaceful. There have been no border skirmishes for nine years. As a consequence of the thaw in relations with India and as progress has been made in the JWG, China has withdrawn its forces from the border with India. In 1994 China had 40 000 troops along the Sino-Indian border compared to India's 240 000, giving India a 6:1 advan-

[12] Cheng Ruisheng is quoted in 'India, China to discuss troops reduction', *Times of India*, 3 Jan. 1994.

[13] Luo (note 12), p. 382.

tage.[14] Even if all the troops that Western intelligence organizations estimate are in Tibet—ranging from 100 000 to 200 000—are taken into account, the figure on the Chinese side is still lower.[15] These forces and combat aircraft must be kept away from the LAC under the 1996 agreement.

Nevertheless, some Indian observers suspect that the military exchange between China and Pakistan and the military cooperation and road construction between China and Myanmar are part of a Chinese attempt to encircle India and project China's influence into the Indian Ocean. Chinese observers note that Pakistan has not been a factor in China's development of its relations with India. China has also vowed that Chinese arms supplies to Pakistan will not disturb the South Asian military balance.[16]

China's expenditure on military R&D, including nuclear R&D, has been reduced since the beginning of the reforms.[17] Military expenditure has been rising in real terms since 1990, but China has declared that the increases are designed for the most part to raise the living standards of personnel.[18] In any case, China's pledge of no-first-use of nuclear weapons is applicable to India.

Indian military planning

India's defeat in the 1962 war brought a new dimension to its military planning. From then on, India benefited from Soviet aid and significantly augmented its military muscle. '[The Indian military grew from] a relatively small one with only several hundred thousand regular troops equipped with World War II [era equipment] before the 1962 border war to [the] fourth strongest force in the world with 1.2 million regular troops armed with a new generation of weapons

[14] Chen Qimao, Chairman of the Academic Council of the Shanghai Institute for International Studies, quoted in Noorani, A. G., 'A China scare? India's response to Beijing's power', *The Statesman*, 14 Jan. 1994.

[15] Mohan Malik, J., 'Sino-Indian relations and India's Eastern strategy', ed. S. Gordon, *India Looks East: An Emerging Power and its Asia–Pacific Neighbours* (Strategic and Defence Studies Centre, Asutralian National University: Canberra, 1995), p. 123.

[16] Cheng (note 13). See also Dixit, J. N., 'Sino-Indian talks: a positive turn', *Indian Express*, 29 Aug. 1995.

[17] Arnett, E., 'Military technology and international security: the case of China', *SIPRI Yearbook 1995: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1995), pp. 373.

[18] 'White Paper on arms control and disarmament', *China Daily*, 17 Nov. 1996.

and equipment [by the 1970s] . . . One third of [this] force was deployed along the Sino-Indian border.'[19]

Between six and eight of India's 10 new mountain divisions were directed at China. The divisions in the eastern part were deployed in Nagaland, Mizoram and Manipur, and two corps were responsible for Kashmir, including Ladakh in the western part. In the 1980s, with an increase in military expenditure, its border arms were further modernized. Some Indians, however, argue that the lack of a network of roads to tactical points and shortage of aircraft are still a problem.

The normalization with China, especially the border agreement, has provided an opportunity for India to introduce a degree of flexibility in military planning. While the 'Chinese threat' is still mentioned in the media from time to time, there has been no mention of any nuclear threat from China for the past several years in the Ministry of Defence's annual reports.[20] Moreover, India does not want to face two battle fronts, which would be a huge burden economically and militarily. India has chosen to maintain its nuclear option policy and has not weaponized its nuclear capability. The dissolution of the USSR, the reduction of military expenditure and pressures from the international arms control community have all made their marks.

The two countries have also been working on confidence-building measures. Chinese warships visited Bombay in 1994 for the first time in nearly 40 years. In 1995 the two countries held a joint military exercise along the border in the Himalayan region of Ladakh. Three border trade posts have been opened, including one at Nathu La in Sikkim. Additional confidence-building measures are under discussion, for example, expanding the range and increasing the frequency of military visits to each other's military establishments beyond the meetings now being held at the Spanggur Gap in Ladakh and at Bumla in Arunachal Pradesh. Three more locations have been agreed upon for such meetings: Nathu La, Shipki La in Himachal Pradesh and Lipulekh in Uttar Pradesh. The groups are also to prepare a draft protocol to be signed by China and India on advance notification of military exercises and for prevention of air intrusions. China and India have renounced the use of force to settle their border disputes, and the possibility of war has practically disappeared.

[19] Luo (note 12), p. 82.

[20] Indian Ministry of Defence, *Annual Report* (Thomson: New Delhi, various years); and Chari, P. R., 'Chinese threat?', *Economic Times* (New Delhi), 4 Nov. 1993. Chari drafted several of the introductory chapters to the annual report.

III. The role of nuclear weapons

So far, the improvement of Sino-Indian relations has not explicitly addressed the nuclear issue. The issue has special characteristics in the Sino-Indian context. China is a nuclear weapon state, while India has demonstrated its nuclear capability but refuses to produce nuclear weapons. Since China has undertaken not to use or threaten to use nuclear weapons first, there is not necessarily any more for them to talk about.

Increasing international efforts on nuclear arms control have coincided with the improvement of Sino-Indian relations, but both sides have good reason not to raise any issue which might be unnecessarily divisive. The nuclear issue is sensitive for both states, even if that sensitivity has little to do with their relationship to one another, and even if the topic were on the bilateral agenda there would not be much space in which to manoeuvre. In any case, the nuclear issue is not central to Sino-Indian relations. Neither country has accorded the issue a high priority in their meetings.[21]

On both sides changes in their security situations have made domestic politics a more important factor in the nuclear weapon programmes. Since the nuclear issue is not yet a topic of public debate in China, its role in domestic politics remains largely one of state élites expressing the strength of the government and the skills of its scientists.[22] In India, domestic politics has an important influence over nuclear decision making, as demonstrated by the polarization of the debate over the test ban in late 1995 and 1996.[23] In the 1996 general election all parties, despite their differences on other issues, closed ranks on the nuclear issue. It is becoming harder for the Indian Government to participate in any nuclear arms control initiative, if it ever wanted to.

Have nuclear weapons ever been significant in Sino-Indian relations? China appears relatively unconcerned about India's nuclear enterprise. It has never seen India alone as a nuclear threat, although

[21] Chakravarti, S., 'Rao's China visit to improve ties', *Times of India*, 31 Aug. 1993.

[22] Di Hua, 'Threat perception and military planning in China: domestic instability and the importance of prestige', ed. E. Arnett, SIPRI, *Military Capacity and the Risk of War: China, India, Pakistan and Iran* (Oxford University Press: Oxford, 1997), pp. 31–32.

[23] See chapter 2 in this volume; and Arnett, E., 'India's nuclear brownout', *Bulletin of the Atomic Scientists*, Nov.–Dec. 1996.

in the 1960s and 1970s it worried about India as a component of Indo-US or Indo-Soviet collusion to encircle China.

China started its nuclear weapon programme in the 1950s mainly to break the nuclear monopoly of the imperialist powers and to acquire a nuclear deterrent to nuclear blackmail from the USA and the USSR. During the Korean War and the 1958 Taiwan Strait crisis, the USA threatened to use nuclear weapons against China. Later, China began to consider the Soviet Union as the main nuclear threat. China has missiles that can strike India, but has never developed a missile specifically to target at India. In the era of military reform, China is still working on three new strategic nuclear missiles. The range of these missile is 8000–12 000 km.[24] They are obviously not developed with India in mind.

In the era of economic reform and since Deng's assertion that major war could be avoided, and especially given the increasing demand for nuclear energy, China's nuclear programme has paid more attention to the energy industry. As a result of the previous strategy of 'primacy of the military objective', while the nuclear weapon programme achieved remarkable progress, China's civilian nuclear industry remained underdeveloped. This strategy has now been replaced by 'military–civilian integration'.[25] Although China has not stopped the qualitative upgrading of its small nuclear arsenal, the speed of development is slowing down. Of the 45 nuclear tests China conducted in 32 years before halting them in 1996, only 20 took place during the 18 years since economic reform began in 1978.

On balance, however, China would rather not have another nuclear weapon state on its border. The effect on the security environment of nuclear proliferation has not escaped military attention altogether in China.[26] This concern was reflected in China's insistence that India and 43 other countries ratify the CTBT before it can enter into force.[27] Nevertheless, the Chinese ambassador to India, Pei Yuanying, has remarked, 'Unlike the Americans, we will not pressurize India to sign

[24] Lewis, J. W. and Di Hua, 'China's ballistic missile programs: technology, strategies and goals', *International Security*, autumn 1992, pp. 35–37.

[25] Chong-Pin Lin, *China's Nuclear Industry under Economic Reform* (Chinese Council of Advanced Policy Studies: Taipei, 1995), p. 1.

[26] *Jie Fang Jun Bao* [PLA Daily], 20 Mar. 1987, 24 Apr. 1987 and 29 July 1988.

[27] The others that insisted on this provision were Pakistan, Russia and the UK. Arnett, E., 'The Comprehensive Nuclear Test-Ban Treaty', *SIPRI Yearbook 1997: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1997), p. 405.

[the NPT] or the CTBT. We respected India's independence in the matter'.[28]

There are at least three reasons why China is indifferent to nuclear developments in India. First, even if relations soured, conventional weapons better serve the cause of security given the limited nature of the disagreements between China and India. In any case, China perceives the probability of war with India to be small. Finally, it might be inferred (as one Indian observer has noted) that China continues to enjoy an advantage in nuclear capability over India, both in warheads and in delivery systems.[29] On this view, as long as the heartland of China is beyond the range of Indian nuclear delivery systems and a large part of India is within range of Chinese aircraft carrying nuclear weapons, deterrence will allow China to rest easy.

India has shown more concern about China's nuclear build-up. Some Indian observers are quick to point out that the whole of India is within the range of Chinese missiles. Some Indians further suspect that China has based nuclear weapons in Tibet and dumped nuclear waste on the plateau.[30] A final concern is Sino-Pakistani missile cooperation, which poses a threat to Indian security and the balance of power in South Asia.

A closer look at the history of the relationship suggests that India never really took the supposed nuclear threat from China seriously. China's first nuclear explosion in 1964 was soon forgotten, and India waited a full decade before carrying out its own test, which could have been achieved much sooner.[31] Even after the Pokhran explosion in 1974, for 20 years India has not tried to race to catch up and has been content with its 'option' policy. The policy is based on the claim that it has the capability to manufacture nuclear weapons but would deploy them only in dire circumstances. This is consistent with an 'existential' philosophy of nuclear deterrence.[32] Although there are those who would have India weaponize its nuclear capability in order to cope with those of its neighbours, particularly Pakistan, this has not

[28] Nanda, P., 'China respects India's N-policy ambassador', *Times of India*, 23 Dec. 1995.
[29] Sundarji, K., 'India's nuclear weapons policy', eds J. Gjelstad and O. Njølstad, *Nuclear Rivalry and International Order* (Sage Publications: London, 1996), p. 174.
[30] 'China dumping N-waste in Tibet', *Financial Times*, 20 Apr. 1993.
[31] Deshingkar (note 1).
[32] Hagerty, D. T., 'The power of suggestion: opaque proliferation, existential deterrence, and the South Asian nuclear arms competition', *Security Studies*, spring/summer 1993.

happened.[33] During these 20 years there has not been a single Chinese attempt at the nuclear blackmail of India. The historical experience of living with the Chinese bomb has helped to reduce the fear of Chinese nuclear might, although those concerns have not entirely disappeared, at least at the level of public rhetoric.

In recent years India has worked more assiduously on missiles, stimulated mainly by the nuclear weapon programme in Pakistan. India is clearly concerned more with Pakistan than with China, although the nuclear weapon programme has always been justified with reference to China's. India has emphasized short-range missiles, which can cover the main cities in Pakistan. The Agni intermediate-range missile could reach some Chinese cities in the south-west part of China, but has progressed slowly and been put aside.

More notably, China and India have begun to cooperate on civil nuclear technology. On 5 January 1995, India's Department of Atomic Energy announced that a supply of enriched uranium had arrived that day from China at its nuclear fuel complex in Hyderabad. The uranium will be mixed with domestically produced plutonium oxide and used to fuel the Tarapur nuclear power plant near Bombay.[34]

There is a contradiction in Indian statements respecting the Chinese nuclear capability. The supposed Chinese nuclear threat has not been mentioned in the Ministry of Defence annual report between 1985/86 and the controversy over the CTBT in 1996. The Indian Ministry of External Affairs links its arms control policy with China's programme, and the Ministry of Defence has again begun to cite the China threat. Does the linkage mean that India is simply using China as an excuse? At the very least, that linkage has helped to ease international pressure on some of India's less popular policies, since a concern with China is seen by many observers as legitimate.

IV. Approaches to arms control

China and India have idiosyncratic approaches to the nuclear arms control regime rooted in their defence policy cultures. This section

[33] van Leeuwen, M., 'After the cold war: prospects for nuclear arms control in South Asia', ed. M. van Leeuwen, *The Future of the International Nuclear Non-Proliferation Regime* (Martinus Nijhoff: Dordrecht, 1995), p. 57.

[34] McDonald, H., 'Nuclear pay-off: China to supply enriched uranium to India', *Far Eastern Economic Review*, 19 Jan. 1995, p. 22.

reviews the similarities and differences in their approaches, beginning with an examination of their aims and means and then assessing where there is potential for competition and cooperation.

Aims and means

In the 1960s and 1970s China criticized arms control and disarmament on the grounds that they formed a regime controlled by the superpowers. It claimed that the primary goal was to prevent other countries from getting nuclear weapons so that the superpowers could maintain their nuclear monopoly. Since then China's nuclear arms control policy has been in a process of change, although the overall principles and goals have remained the same. In the words of Foreign Minister Li Huaqiu, the change is 'from idealism to realism; from a completely Chinese way of doing things towards gradual application of international practices and ways of doing things; and from criticism to joint cooperation'.[35]

China has been actively involved in different arms control forums. By participating in the negotiations rather than condemning them, it is able to prevent the creation of obligations that would threaten its security interests, deal with problems that cannot otherwise be solved, and show its willingness to accept responsibility befitting its international role. In multilateral forums China has made important contributions. After belatedly signing the NPT and taking an ambiguous position in favour of 'smooth extension', it agreed to the indefinite extension of the treaty. It showed flexibility in the CTBT talks, giving up its earlier positions on permitted activities, peaceful nuclear explosions, verification and on-site inspections. China was among the first signatories in September 1996.

China's new approach to arms control policy encompasses both long-range goals and short-term pragmatism. The long-range goal is the total elimination of nuclear weapons, but China accepts that the realization of this goal will require a protracted process, during which it can accept interim arrangements. As a participant in these arrangements, China established its practical aims. First among these is reducing the number of nuclear weapons held by the nuclear weapon states, including itself, a process in which the superpowers should take

[35] Liu Huaqiu, 'Evaluation and analysis of China's nuclear arms control policy', *Conmilit* (Beijing), Nov. 1995.

the lead. Since Russia and the USA still have the largest nuclear arsenals in the world, they are expected to reduce their weapons first. Specifically, Russia and the USA should reduce their arsenals to a level comparable with the holdings of the other nuclear weapon states.

China also seeks to prevent nuclear proliferation, especially in neighbouring countries, and to remove the threat of nuclear blackmail. In particular, China has consistently called for the nuclear weapon states to reach an agreement under which they would not use or threaten to use nuclear weapons first against each other and would not use or threaten to use their nuclear weapons against non-nuclear weapon states at all.

In contrast, India has been active in arms control and disarmament since Independence. It was the first country to propose a test ban treaty and a cut-off on the production of materials for nuclear weapons. It signed the PTBT soon after it was concluded in 1963. In the mid-1960s, however, its retreat from its earlier enthusiasm for arms control began. It criticized the discriminatory nature of the NPT and refused to sign it.

Since the end of the cold war, India has had to adjust to the new world order, especially in its relationship with Russia. Thus far, however, there has not been a radical modification of India's nuclear policy. India remains one of the few countries outside the international non-proliferation regime. If anything, India's opposition to arms control as practised in existing forums has strengthened, and some observers seem to be encouraging India to test and deploy nuclear weapons simply to flout the emergent nuclear order. Even so, like China, India continues to hold fast to the ideal of eliminating nuclear weapons completely.

If China and India share some goals, there might be as many similarities as differences in their approaches. With their relations improving, the similarities could lead to greater cooperation.

To summarize the similarities, both resist Western hegemony and its embodiment in nuclear weapons. For almost two decades China also criticized the NPT as discriminatory, and it has been subject to US sanctions. Both countries are concerned that inspection regimes will cause problems for their sovereignty and security. Finally, both support the elimination of nuclear weapons as a final goal and a no-first-use pledge by the nuclear weapon and nuclear weapon-capable powers.

Nevertheless, there remain differences. China has shown its flexibility and taken a practical approach to nuclear arms control, while India emphasizes principle and long-term goals. China has actively participated in the arms control regimes while India is still reluctant to get involved. China now accepts that arms control can serve its security interests, while India apparently sees arms control as a threat to its security.[36] China prefers gradual disarmament, while India insists on disarmament within a specific time-frame.

Competition or cooperation?

The existence of similarities despite important differences suggests scope for developing a common approach where their interests are shared. China—as a permanent member of the UN Security Council and an unambiguous nuclear weapon state—is in a better position to take up these challenges, but India can also play a role.

Criticizing contemporary power politics is a staple topic during meetings between their leaders. During his 1994 trip to New Delhi, Li Peng said that if China and India support each other politically they could be a great force in the world arena. The same year, when US Defense Secretary William Perry said that prevention of the nuclear arms race in South Asia was an issue on which China and the USA could cooperate, China did not take up the offer, preferring to respect India's independent policy.

Nevertheless, China's new flexibility has done more to complicate Indian policy than to simplify it. India is more isolated as a result of China's tactical abandonment of some shared principles. This isolation can only increase if India continues to avoid the non-proliferation regime—and even more so if it exercises its nuclear option and weaponizes.

V. Implications for the future of nuclear arms control

For the foreseeable future, nuclear arms control will not be an important topic in the improving relations between China and India. So far,

[36] For example, when he was Indian Minister of External Affairs, I. K. Gujral said that security considerations weighed more heavily than the objective of disarmament as far as India's stand on the CTBT was concerned. Bhargava, G. S., 'Posturing on CTBT', *Times of India*, 24 Aug. 1996.

there are few indications that either Beijing or New Delhi seeks to discuss the nuclear issue.[37]

At the regional level, China has clearly supported Sri Lanka's proposal to make the Indian Ocean a Zone of Peace but has been reluctant to enter a regional dialogue on nuclear non-proliferation. Recently it has shown a more positive attitude and may get involved if a basis for discussion is accepted by the other parties.[38] Given recent progress in Sino-Indian relations, China may be more cautious about its role in Pakistan's nuclear programme, perhaps pressing for inspections by the IAEA.

Finally, at the global level, India is only likely to play a more positive role if it can be convinced that nuclear arms control reinforces its security interests and accepts that it need not weaponize its nuclear capability. China, as India's largest neighbour and a nuclear weapon state, can contribute on both scores. Still, India's choice between the alternatives of nuclear arms control and nuclear armament will not ultimately be the result of a threat from China, or even of relations with Pakistan, but of considerations of international power and influence. An arrangement beyond Sino-Indian bilateral relations is necessary to the Indian role in the post-cold war nuclear order.

[37] India has never raised the issue, despite the rhetoric sometimes offered for domestic consumption. Deshingkar (note 1).

[38] Author's personal communications with Chinese officials, Feb. 1996.

4. Public opinion, democratic governance and the making of Pakistani nuclear policy

Samina Ahmed

I. Introduction

Since the indefinite extension of the Non-Proliferation Treaty (NPT) in 1995 and the opening for signature of the Comprehensive Nuclear Test-Ban Treaty (CTBT) by the UN General Assembly in September 1996, international attention is increasingly focused on the potential dangers posed by South Asian nuclear proliferation as Pakistan—like India—refuses to participate in the global process of nuclear arms control. While the presence of two hostile nuclear-capable states is sufficient ground for apprehension, South Asian officials appear unconcerned about the problem of instability. Nor, indeed, are such apprehensions voiced in the mainstream debates on the nuclear issue in Pakistan or India.

As international pressure mounts on Pakistan to reconsider its nuclear weapon programme, its decision-making authorities continue to reject such demands, justifying their nuclear policy on the grounds of its reactive nature and its supposed deterrent value which, they claim, is based on the need to counter actual or potential threats from India. Similar justifications are used to gain domestic support for Pakistan's nuclear energy programme.

Opinion polls suggest that the majority of the population accepts Pakistan's policy of nuclear ambiguity, that is, the capability to assemble a nuclear device without either acquiring or renouncing nuclear weapons.[1] Domestic discourse on the nuclear question echoes policy and thereby reinforces the pro-nuclear bias of that policy.

[1] In one of the most comprehensive polls of élite opinion on nuclear issues to date, 61% of respondents supported the policy of ambiguity, while another 32% advocated the overt acquisition of nuclear weapons. Ahmed, S. and Cortright, D., *A Study of Pakistan's Nuclear Choices* (Saleem Majeed Marketing: Lahore, 1996). There was overwhelming support for the policy of deliberate ambiguity in an earlier poll held by a prestigious Pakistani monthly publication. Hussain, Z., 'Whodunnit? The inside story of who really capped Pakistan's nuclear programme', *Newsline* (Karachi), Apr. 1994, p. 35.

This close fit between official policy and public perceptions on the nuclear issue reflects the success of Pakistani decision makers in guiding public opinion and influencing public perceptions on security-related issues. In order to comprehend how and why public opinion in Pakistan tends to follow policy in the nuclear domain unquestioningly, it is important to understand the context within which security and defence policies are formulated, implemented and propagated.

II. Nuclear policy in public discourse

Discourse on security issues in Pakistan is determined by the lack of transparency in the formulation of policy and the absence of an informed public debate. The lack of debate is the result of deliberate state policy and a by-product of the political system. For most of Pakistan's history, political power has been exercised by the military through the civil bureaucracy. Not only has the military attempted to maintain complete control over policy in areas of particular sensitivity, it has also endeavoured to ensure that its interests and perceptions are not challenged by political rivals. Although successive military regimes have failed in their attempts to gain domestic legitimacy for authoritarian rule, they have succeeded in attaining popular acceptance of their security policies, particularly in the nuclear realm.

Pakistan's decision-making authorities have been assisted in their quest for acceptance of their perceptions and policies by a number of factors. In the external sphere, the uneasy relationship between India and Pakistan and the disparities in size and resources between the two mutually antagonistic states have enabled Pakistan's state managers to acquire domestic support for measures to manage the perceived threat. Not only do most Pakistanis accept the need to buttress the country's conventional strength *vis-à-vis* India; official efforts to depict the nuclear capability as an effective deterrent against the Indian threat also seem to have won popular acceptance.[2]

For a state with a troubled history and fragile political foundations, the acquisition of nuclear capability has also served a useful domestic purpose. Not only is the country's threshold status projected as a symbol of Pakistan's sovereignty and prestige; external pressures on Pakistan to renounce its nuclear capability have been used to rally a

[2] Askari, M. H., 'Pakistan's nuclear options', *Dawn* (Karachi), 8 Jan. 1997.

deeply divided people behind state authority. In the internal context, moreover, the external threat is a particularly useful tool in gaining political legitimacy and diverting domestic discontent from unrepresentative rule and authoritarian practices.[3] Thus internal threats to the political, economic and social status quo are often depicted as inspired and assisted externally—that is, by India. In a similar fashion, internal questioning of the direction of external security is officially equated with sedition or even treason.

A majority of the population, however, tends to accept official security concepts voluntarily since its access to information is limited, as is its exposure to alternative views. Thus, in the nuclear sphere, official definitions of deterrence have won popular acceptance and support, even though there is little understanding either of the concept itself or of its potential economic, political and strategic risks and costs.

Official endeavours to restrict and control the parameters of debate are assisted by the unrepresentative nature of the decision-making process itself. All aspects of policy in the nuclear field remain the military's sole prerogative. While some input is provided by the civil service, its main role is to ensure that the internal and external developments do not interfere with the military's policy objectives. Thus, in the external sphere, officials assist in the acquisition of technology and in the mitigation of international pressure. Internally, official control of the broadcast media in a country with a largely illiterate population has played a major role in the popular acceptance of policy. The security debate is, therefore, restricted to official rhetoric and its echoes.[4]

Public opinion

Most Pakistanis in any case have no role in the making of policy. They are illiterate, poverty-stricken and subjected to systemic economic, social and political constraints. Pakistan's small educated élite has the means to influence public opinion and hence official policy.

[3] Harrison, S. S., 'South Asia and the United States: a chance for a fresh start', *Current History*, vol. 91, no. 563 (Mar. 1992), p. 97.

[4] According to the Kroc survey, only 1% of respondents believed that information on nuclear issues was easily available. 50% of respondents agreed that information on nuclear issues was 'difficult' to get and another 20% said such information was 'almost impossible to get'. Ahmed and Cortright (note 1), p. 11. See also Askari (note 2).

Its acceptance of official policy and rhetoric on the nuclear question is essential for policy makers. This segment of public opinion is systematically targeted with a sophisticated but dependent academic debate and manipulation of the independent print media.

So far as academic discourse is concerned, the debate is easy to manipulate since most institutions of higher education in Pakistan function under the direct control of the civil service. Academics, for all practical purposes, are government functionaries.[5] Career incentives and the fear of punitive action make it easy to limit academic dissent. Since all important think-tanks, particularly in the fields of defence and security, are also financed by the government and under governmental control, official rhetoric becomes the academic discourse.

The nuclear debate in the print media plays a more important role in influencing the perceptions of Pakistan's educated élite. Although the independent print media have resisted state control, independence of thought is seldom demonstrated *vis-à-vis* security issues. The absence of a vigorous debate on nuclear policy can be attributed, in part, to the plethora of retired civil and military bureaucrats who dominate the media's security discourse.[6] Most media personnel, however, uncritically accept official postures and justifications on nuclear policy since they have little independent knowledge of the subject.

Civil–military relations

Neither the restricted nature of the domestic debate nor the unrepresentative character of the policy-making process was changed much by the transformation of the political system in 1988, when power was transferred to civilian hands after 11 years of direct military rule. Security policy remains the military's responsibility, and elected civilian leaders continue to play a limited role in either the formulation or the direction of Pakistan's nuclear policy.[7]

[5] All public-sector educational institutions in Pakistan function under provincial or central ministries of education and under government-controlled bodies, such as the University Grants Commission.

[6] The most prolific writers on the nuclear programme include retired Vice-Chief of Army Staff, Gen. K. M. Arif; former head of Inter-Services Intelligence Lt.-Gen. Hameed Gul; and former foreign secretaries Abdul Sattar and Agha Shahi.

[7] According to a knowledgeable Pakistani source, no elected head of government has even been allowed to visit the Kahuta nuclear laboratory. Perkovich, G., 'A nuclear third way in South Asia', *Foreign Policy*, no. 91 (summer 1993), p. 90.

This continuity in the policy-making processes is the result of the political order which was devised in 1988, when the military high command decided, reluctantly, to turn formal power over to civilian hands. The transfer only took place after the elected political leadership accepted the military's continued guidance in sensitive areas of policy making, including defence and foreign affairs.[8] The military has retained its political predominance since, continuing to play an interventionist role and dismissing and forming governments at will, both at the centre and in the provinces.[9]

Since no elected government has been allowed to complete its term of office, the two main political parties, the Pakistan People's Party (PPP) and the Pakistan Muslim League (Nawaz) (PML-N), believe that the military's continued support and approval are an essential precondition for attaining or retaining power. Hence elected governments as well as the political opposition not only tacitly accept the military's dictates on security issues, but even use their political platforms to further the military's perceptions, priorities and policies.

All major political actors, including the Islamist parties, use nationalistic rhetoric to bolster their support and to attack the legitimacy of their opponents. This use of rhetoric further reinforces domestic support for official nuclear policy, which is strongly associated with Pakistani sovereignty and prestige.[10] At the same time, the political risks entailed in questioning support for the nuclear weapon programme contribute to the one-sided nature of the debate.

[8] Lodhi, M., *Pakistan's Encounter with Democracy* (Vanguard: Lahore, 1994), p. 298. See also Rashid, A., 'Keeping the generals happy', *Far Eastern Economic Review*, 8 Dec. 1988.

[9] Since 1988, 3 elected governments have been dismissed before completing their terms of office. These include the PPP Government of Benazir Bhutto in 1990; the Islami Jamhoori Ittehad Government of Nawaz Sharif in 1993; and the government of Benazir Bhutto once again in Nov. 1996. Provincial administrations, especially in Sindh, have also been dissolved and formed at will by the military.

[10] Thus, for example, the Pakistan Muslim League, heading the opposition alliance against the PPP, as well as religious parties such as the Jamaat-i-Islami and the Jamaat-i-Ulema-i-Pakistan accused the PPP of selling out Pakistan's nuclear programme and called for the adoption of an open nuclear policy without any ambiguity as a deterrent to India's 'hegemonic designs'. Now in opposition, former Prime Minister Benazir Bhutto's bid to regain domestic support includes claims that her government saved Pakistan's nuclear programme from being rolled back. 'Benazir says her govt saved n-programme', *Dawn*, 26 Jan. 1997.

III. The nuclear issue and regime legitimacy

The nexus between public opinion and the nuclear programme has been strengthened over time. Care has been taken to introduce changes in the directions of Pakistan's nuclear policy in such a manner as to retain public acceptance and approval. The history of the programme, which dates back to the 1960s, illustrates the domestic determinants of security policy in Pakistan.

From Partition to the first military government

A combination of hostility towards India and the need to address domestic challenges contributed to the inception of the nuclear weapon programme in the 1960s. This particular mix of internal and external factors has, in fact, existed since Pakistan's creation as an independent state. As early as 1948, Pakistani policy makers opted for anti-Indian rhetoric and the threat or use of force to advance their dual goals of regime legitimacy and external security.

By 1958, when the military took direct control of the state after a decade of indirect control in alliance with the civil bureaucracy, the role of the military as guarantor of national security had begun to bear political fruit. Although the military's political legitimacy was questioned and rejected, Pakistani decision makers proved more successful in manipulating anti-Indian sentiment, the by-product of a bitter partition and of the continued existence of territorial disputes. As a result there was general acceptance among most sections of the population of a security policy based on two assumptions: an unremitting Indian threat and a reliance on military (as opposed to diplomatic) means to counter it.

This approach suited the domestic political interests of the now-dominant armed forces. Pakistan's participation in Western security alliances, justified by the putative Indian threat, was generally accepted by the public, while the military became the beneficiary of Western economic and military assistance. Nor did the public question the emphasis on military expenditure at the cost of development.

With respect to nuclear policy, Pakistan's first reactor started up in 1965, but the weapon option was not yet an important activity. India's nuclear ambitions were condemned, but key officials disclosed their intention to counter a potential Indian nuclear threat with a similar

capability. Thus, General Ayub Khan's politically ambitious Foreign Minister, Zulfikar Ali Bhutto, could declare in January 1965 that if India developed an atomic bomb Pakistan would also have to because there was no conventional alternative.[11]

In the wake of the Indo-Pakistani War of 1965, Pakistani policy makers faced new and more serious domestic challenges. The miscalculations of the military regime, combined with heightened public expectations, led to widespread opposition to authoritarian rule. In the regime's attempts to divert domestic attention away from an unpopular cease-fire in the West wing of the country and disillusionment with the prospects of a stable and secure East Pakistan, anti-Indian propaganda reached new heights in the officially controlled print media.

Despite the intention to develop a nuclear option, the military's main priority was the resumption of security links with the USA and access to US arms, disrupted during the 1965 war. The 1970s were to lead to a change in nuclear policy as decision makers faced new interlinked internal and external challenges.

The civilian government after the 1971 war

Following its defeat in the 1971 Indo-Pakistani War and the independence of Bangladesh, the Pakistani military opted for a strategic withdrawal from politics, handing over power to civilian hands. Under President, later Prime Minister, Zulfikar Ali Bhutto, the new government faced the onerous tasks of restoring domestic legitimacy and providing a new sense of identity to the truncated state. At the same time, conscious of the military's resentment at their loss of power and prestige, the civilian leadership had to ensure that the interests and goals of the armed forces were given priority in policy making.

In the domestic realm, the PPP Government relied on the tried and tested approach of using the external threat to foster internal unity, exploiting anti-Indian sentiment and suspicions, which also served to legitimize a gradual military build-up in both the conventional and the

[11] Bhutto paraphrased his famous statement of Jan. 1965—'even if we have to eat grass or leaves or to remain hungry'—in Dec. 1966: 'If India acquires nuclear status, Pakistan will have to follow suit even if it entails eating grass'. Bhutto, Z. A., 'Pakistan and nuclear-proliferation: Larkana, December 29, 1966', eds H. Jalal and K. Hasan, *Awakening the People: A Collection of Articles, Statements and Speeches by Zulfiqar Ali Bhutto 1966–69* (Pakistan Publications: Rawalpindi, 1970), p. 21.

nuclear realms. The nuclear aspect became more important following the Indian nuclear test in 1974. The Bhutto Government embarked in earnest on an ambitious nuclear programme aimed at providing Pakistan with an equivalent nuclear standing, and nuclear policy was justified on the ground of the Indian threat to receptive internal audiences.

Although the programme clearly had a weapon orientation, the Pakistani authorities insisted that it was peaceful in nature as they attempted to acquire the necessary technology and hardware from external sources, including a French nuclear reprocessing plant.[12] Pakistan also attempted simultaneously to justify its nuclear programme and discredit its Indian adversary by proposing a nuclear weapon-free zone for South Asia, an offer which was promptly rejected by India. Although official offers of regional disarmament and their rejection by India reinforced Pakistani public perceptions of the Indian threat, they did little to reassure the USA of Pakistan's peaceful nuclear intentions.

The return to military rule after the 1977 coup

The nuclear programme became even more of a symbol of Pakistan's national prestige and sovereignty when the French rescinded the nuclear reprocessing deal under US pressure. Following the military coup which brought General Zia ul-Haq to power in 1977 and led to Bhutto's execution, nuclear policy still proved to be a successful tool in providing a degree of legitimacy to an unpopular military regime, since it projected itself as the guardian of Pakistan's national security and sovereignty.[13]

Although domestic legitimacy continued to elude the Zia regime throughout its 11 years, there were no significant internal divisions on the issue of the nuclear weapon programme. While the successful use of the government-controlled broadcast media and the co-optation of the academic community helped in creating a domestic consensus on the issue, the regime's role in Afghanistan during the second cold war helped it to acquire external legitimacy and substantial economic and military support.

[12] Prime Minister Bhutto declared, for example, 'We are a peaceful nation . . . we will not go for the bomb'. *Pakistan Times*, 3 Mar. 1976.

[13] Spector, L. S. and Smith, J. R., *The Spread of Nuclear Weapons 1989–1990: Nuclear Ambitions* (Westview Press: Boulder, Colo., 1990), p. 95.

Deliberate US inattention helped Pakistani decision makers in their clandestine quest to acquire an independent ability to produce fissile material, which was achieved by the mid-1980s. When Under-Secretary of State James Buckley was questioned by the Senate Government Affairs Committee on Pakistan's nuclear programme, he said that he had been 'assured by Pakistani ministers and by the President himself that it was not the intention of the Pakistani government to develop nuclear weapons', stating even more categorically on another occasion, 'I fully accept the statement of President Zia that Pakistan has no intention of manufacturing nuclear weapons or acquiring nuclear weapons'. A State Department memorandum in 1983, however, disclosed that Pakistan had shifted from 'procurement of weapon components themselves to procurement of machinery necessary for their manufacture'.[14] Certain of Western economic and military assistance, the military regime continued to expand and consolidate Pakistan's nuclear capabilities.

Nor were any attempts made to resolve tensions with India, exacerbated by the tendency, on both sides, to exploit internal tensions.[15] As relations continued to decline, war was narrowly averted in 1985 and 1987.[16] These crises were, however, used in the internal Pakistani context to justify the directions of both security and domestic policies, including the forcible repression of dissent in the province of Sindh.[17]

In a deteriorating regional climate, Pakistan's achievements in the nuclear field were also used to buttress the legitimacy of the military regime. Although ambiguity remained Pakistan's nuclear policy, high-profile figures within the nuclear establishment revealed that Pakistan had acquired the ability to produce weapon-grade uranium, joining the select club of nuclear-capable countries. Abdul Qadeer Khan, head of Pakistan's uranium enrichment programme, admitted that Pakistan had a nuclear capability in an interview with a visiting

[14] Burrows, W. E. and Windrem, R., *Critical Mass: The Dangerous Race for Superweapons in a Fragmenting World* (Simon and Schuster: New York, 1994), p. 71; and Albright, D., 'India and Pakistan's nuclear arms race: out of the closet but not in the street', *Arms Control Today*, vol. 23, no. 5 (June 1993), pp. 15–16.

[15] The Indian Government believed that Pakistan was extending support to Sikh and Kashmiri insurgents, while Zia accused India of encouraging Sindhi dissidents.

[16] In 1987 an outbreak of conventional war was narrowly averted after Pakistan at first reacted aggressively to the Indian border exercise, 'Brasstacks', and then moved quickly to defuse tensions by diplomatic exchanges at the highest level.

[17] For example, then Prime Minister Mohammed Khan Junejo claimed that India was arming 'anti-government subversives' who would then 'manage their entry into Pakistan for subversive activities, especially in Sindh'. *Dawn*, 18 Nov. 1986.

Indian journalist, Kuldip Nayar, in March 1987, an interview which could only have been held with the military regime's approval and connivance.[18]

Thus the nuclear programme was presented to domestic audiences not only as the ultimate means of ensuring Pakistani security against aggressive Indian intentions, but also as a symbol of national prestige and sovereignty. Zia stated, for instance, 'We are among the five countries in the world who know and practice this technology', that is, the production of reactor-grade enriched uranium; while Khan, in an interview with a widely read Urdu-language daily, *Nawa-i-Waqt*, declared that 'Pakistan had broken the western countries' monopoly on the enrichment of uranium'.[19]

Conscious, however, of the need to divert international attention from the rapid progress of the nuclear weapon programme, Pakistani policy makers offered proposal after proposal for regional nuclear disarmament to an unresponsive Indian establishment. India's rejection of Pakistan's diplomatic offensive was then used to undermine Indian credibility in international forums and to strengthen the domestic consensus in favour of Pakistan's nuclear capability.[20]

IV. The current nuclear debate

The directions of Pakistan's nuclear policy have remained largely unchanged following Zia's death in mid-1988 and the transfer of power from military to civilian hands. The role of the political leadership in formulating Pakistan's nuclear policy remains limited and elected leaders have not attempted to change security discourse.

[18] The substance of the interview was then reproduced in segments of the Pakistani press. Ganguly, S., 'Emergent security issues in South Asia', *Director's Series on Proliferation* (Lawrence Livermore National Laboratory: Livermore, Calif., 1995), p. 26.

[19] Ali, A., *Pakistan's Nuclear Dilemma: Energy and Security Dimensions* (Economist Research Unit, *Pakistan and Gulf Economist*: Karachi, 1984), p. 64. See also Salik, N. A., 'Pakistan's nuclear programme: technological dimension', eds P. R. Chari, P. I. Cheema and Iftekharuzzaman, *Nuclear Non-Proliferation in India and Pakistan: South Asian Perspectives* (Manohar: New Delhi, 1996), p. 90.

[20] The Pakistani proposals included: (*a*) pledges to renounce nuclear weapons (1978); (*b*) an agreement with India for mutual inspection of their nuclear facilities and simultaneous agreement to sign the NPT with India (1979); (*c*) common Pakistani and Indian acceptance of full-scope IAEA safeguards (1979); (*d*) a bilateral nuclear test ban (1987); and (*e*) the creation of a regional disarmament zone with Indian assent. Khan, S. A., 'Pakistan', ed. E. Arnett, SIPRI, *Nuclear Weapons after the Comprehensive Test Ban: Implications for Modernization and Proliferation* (Oxford University Press: Oxford, 1996), p. 79.

Since successive governments have been dismissed in military-supported or -directed constitutional coups since 1988, elected governments have taken care to ensure that the military's perceptions and priorities continue to receive domestic acceptance, particularly in the nuclear realm. Faced, however, with a less sympathetic international environment after the end of the cold war, the dissolution of the Soviet Union and a resumption of US pressure for an abandonment of Pakistan's nuclear programme,[21] there has been a shift in official rhetoric and tactics in both external and internal forums.

Pakistani officials admit that Pakistan has achieved the capability to produce fissile material and to manufacture nuclear weapons.[22] In an unsuccessful bid first to prevent and then to remove the US embargo on economic assistance and the supply of conventional arms, Pakistani officials claim to have unilaterally capped production of weapon-grade uranium.[23] The official admission that the Pakistani nuclear programme is weapon-oriented is, however, accompanied by reiterations of the programme's ambiguous and defensive nature. It is claimed that Pakistan would be willing to adopt international non-proliferation norms but only in the event of a simultaneous Indian accession to the international non-proliferation regime.[24] It is also claimed that Pakistan has no intention of developing or maintaining a nuclear arsenal since its nuclear capability is in itself an effective deterrent against a potential Indian threat.

Much of Pakistan's new official rhetoric has been aimed, albeit with mixed results, at convincing external audiences of the need for a more sympathetic response to Pakistan's security imperatives without

[21] The objective of the Clinton Administration's declaratory policy is 'first to cap, then over time reduce, and finally eliminate the possession of weapons of mass destruction and their means of delivery'. US Department of State, Report To Congress: Progress Toward Regional Nonproliferation in South Asia, Released by the Bureau of South Asian Affairs, 7 May 1993.

[22] In the first official disclosure of Pakistan's nuclear weapons capability during a visit to the USA in Feb. 1992, the Pakistani Foreign Secretary, Shaharyar Khan, stated that Pakistan possessed 'all the elements which, if put together, would become a [nuclear] device'. Smith, R. J., 'Pakistan can build one nuclear device, foreign official says', *Washington Post*, 7 Feb. 1992.

[23] According to the caretaker Prime Minister, Moin Qureshi, Pakistan had 'halted' its nuclear programme. Quester, G. H., 'Nuclear Pakistan and nuclear India', *Military Technology*, vol. 17, no. 10 (Oct. 1993), p. 67.

[24] According to then Prime Minister Benazir Bhutto, 'Pakistan cannot take unilateral measures in the nuclear field but will work regionally and multilaterally on proliferation issues'. *Dawn*, 1 Apr. 1996.

endangering the nuclear weapon programme itself.[25] Thus, in the debate leading up to the NPT extension in 1995, and again at the Conference on Disarmament negotations on the CTBT, Pakistani negotiators proclaimed their support for nuclear disarmament, but made their acceptance of the international non-proliferation regime contingent on Indian accession to both treaties.[26]

In bilateral discussions with US officials, Pakistan has called for its nuclear policy to be judged in the context of the state of Indo-Pakistani relations, including the existence of such sources of tension and insecurity as the long-standing territorial dispute over Kashmir. Perceptions of insecurity stemming from Indo-Pakistani asymmetry in conventional arms have also been emphasized, implying that one-sided international sanctions could force Pakistan into an even greater reliance on its nuclear weapon capability.

This multi-pronged attempt to gain international acceptance of that capability has borne some fruit. To Pakistan's gratification, there has been a perceptible shift in US policy towards South Asian proliferation, demonstrated, for example, by the Brown Amendment.[27] There are also signs of a change in US non-proliferation goals from a roll-back of South Asian nuclear proliferation to the more limited goal of capping the two nuclear weapon programmes. This change in emphasis implies a tacit US acceptance of the nuclear status of the two South Asian hold-outs.[28]

[25] During a visit to the USA, for example, Qureshi stressed that Pakistan 'cannot commit political suicide' by accepting unilateral restrictions on its nuclear programme. '"No unilateral ban on n-plan; verification now main issue"—says Moin Qureshi', *Defence Journal*, vol. 20, nos. 3–4 (1994), p. 60.

[26] While Pakistan's permanent representative to the UN in Geneva, Munir Akram, declared his country's inability to sign the NPT at the renewal conference, he added that Pakistan favoured 'the extension of the Treaty because we acknowledge that a breakdown in the NPT consensus would have negative implications for international stability'. Mahmood, T., 'Nuclear non-proliferation treaty (NPT): Pakistan and India', *Pakistan Horizon*, vol. 48, no. 3 (July 1995), p. 98. A nearly identical stand was taken on the CTBT.

[27] Passed in 1996, the Brown Amendment to the Foreign Operations, Export Financing, and Related Programs Appropriations Act of 1996 will allow Pakistan to receive some military equipment previously covered by the 1985 Pressler Amendment's embargo, despite the continuing inability of the US Government to certify that Pakistan does not have a nuclear weapon. The Brown Amendment will not allow Pakistan to receive any of the complete F-16 aircraft for which it has paid.

[28] Hawes, J., *Nuclear Proliferation: Down to the Hard Cases*, Project on Rethinking Arms Control, Paper no. 6 (University of Maryland: College Park, Md., June 1993), pp. 10–11. See also Gordon, S., 'South Asia's nuclear genie is out: now what?', *Pacific Research*, vol. 7, no. 2 (May 1994), p. 3.

The lack of an international consensus, particularly among the five permanent members of the UN Security Council, on the means of resolving the South Asian nuclear impasse is in itself aiding Pakistani policy makers in their task of protecting and advancing their nuclear weapon capability. Playing on the absence of consensus on both positive and negative incentives to deter South Asian proliferation, Pakistan is continuing to pursue its weapon programme while formally adhering to its official policy of ambiguity.

The failure of influential external players to check Pakistani nuclear proliferation is presented to domestic audiences—not inaccurately—as a success of Pakistani diplomacy. Resistance to international pressure is also used to reinforce domestic support for the nuclear programme as the cornerstone of Pakistani security and sovereignty. Following the opening for signature of the CTBT, for example, a Pakistani official expressed satisfaction that, while India stood diplomatically isolated, 'We have protected our interests and Pakistan is not being targeted today by anybody'.[29]

Pakistani officials are aided in their task of strengthening the domestic consensus by heightened perceptions of threat from India, in the midst of accusations and counter-accusations of interference in Kashmir and Sindh. In this context, nuclear capability is perceived by most Pakistanis as the mainstay of Pakistani security and a means of retribution in the event of a future Indian attack, disregarding such factors as the existence of conventional and nuclear asymmetries.[30]

At the same time, an atmosphere of acute political polarization and instability in Pakistan has made the nuclear issue a more important tool of internal politics. Ruling governments hope as never before to gain domestic support by emphasizing their commitment to the nuclear programme and their determination to resist external pressures to change its direction. Their political opponents have accused them of selling out the nuclear programme in a bid to gain external support and thereby retain power.

[29] President Farooq Leghari, on the other hand, claiming that Pakistan was being subjected to tremendous pressure on the nuclear issue, declared, 'We would not succumb to any threat or intimidation on the issue of the country's security'. *Dawn*, 11 Sep. 1996; and 14 Sep. 1996.

[30] In the Kroc survey, for example, 98% of Pakistan's educated élite expressed the belief that Pakistan should launch a nuclear strike against India in retaliation against any Indian attack across the international border; while 77% were of the opinion that Pakistan should use nuclear weapons in the event of Indian military intervention across the line of control in Kashmir. Ahmed and Cortright (note 1). See also chapter 5 in this volume.

In August 1994, Mohammed Nawaz Sharif, then leader of the opposition, claimed that Pakistan actually possessed nuclear weapons and would use them in the event of an Indian attack, hoping to gain public support and to embarrass the government of Benazir Bhutto and the PPP in its dealings with the USA.[31] On several occasions subsequently Sharif accused the Bhutto Government of compromising Pakistan's nuclear programme, warning that the nation would not accept any attempt to undermine its nuclear capability. The government, for its part, maintained that it had succeeded in safeguarding vital national interests by rejecting external pressure. The passage of the Brown Amendment was presented as an example of the PPP's success in neutralizing external opposition to Pakistan's nuclear ambitions.[32]

The internal debate on the CTBT provides a particularly illustrative example of the linkage between Pakistani domestic politics and nuclear policy. The issue came to the fore at a time when the opposition had heightened its efforts to destabilize the government. The Pakistani stand on the CTBT, therefore, became the focus of domestic politics and has remained an issue of internal politics even after the removal of Prime Minister Bhutto.

Vulnerable to the attacks of a determined opposition, the Bhutto Government attempted, at public forums and in official pronouncements, to convince domestic audiences of its ability and resolve to withstand external attempts to undermine the country's nuclear capability. In an address to the National Defence College, against the backdrop of international pressure on Pakistan to sign the CTBT, Bhutto stated categorically, 'We cannot disarm unilaterally, nor can we shut down our nuclear programme without a regional nuclear regime'.[33] Since the government also faced the task of rejecting the CTBT in such a manner as to prevent an adverse external reaction, it

[31] Smith, C., 'Nuclear dangers in South Asia', *Centre for Defence Studies Bulletin of Arms Control*, no. 16 (Nov. 1994), p. 17.

[32] Addressing Formation Commanders of the Pakistan Armed Forces, Bhutto stressed that the passage of the Brown Amendment had not only 'led to a new opening in relations with the US' but was also 'a moral vindication of Pakistan'. She claimed that the amendment signified US acceptance of Pakistan's stand that 'Kashmir is a primary source of tension in South Asia and that a collective approach is needed in South Asia for the solution of contentious issues as well as towards non-proliferation'. *Dawn*, 1 Apr. 1996.

[33] Denying opposition charges of a sell-out on the CTBT, her Foreign Secretary, Sardar Aseff Ahmad Ali, declared that 'Pakistan's position on the nuclear issue is clear and consistent . . . We are not prepared to undertake any unilateral obligation or commitment . . . in this regard'. *The Muslim*, 4 Aug. 1996.

extended conditional support to the treaty in international forums but made Pakistani acceptance contingent on Indian accession to the treaty.[34] Its political opponents, led by Nawaz Sharif's Muslim League, chose to depict these diplomatic manoeuvres as compromises which would prove detrimental to Pakistan's nuclear interests, attempting to undermine the government's internal credibility.[35]

Not only was the government publicly accused of a sell-out by opposition parties such as the Islamist Jamaat-i-Islami, but since the CTBT was agreed in the UN General Assembly the domestic debate on nuclear policy in Pakistan has become even more acrimonious.[36] Following the Bhutto Government's dismissal, all major parties are vying with each other to prove their uncompromising support for the nuclear weapon programme in their bid to woo domestic support, undermine their opposition and, above all, prove their worth to the powerful military establishment.

As pro-nuclear sentiments dominate the domestic debate, nuclear hard-liners have been given an opportunity to exert pressure for a replacement of the official policy of ambiguity by overt weaponization. Through the print media an elaborate campaign has been launched by pro-nuclear retired civil and military bureaucrats to influence élite perceptions in favour of the weaponization option.[37]

This hardening of nuclear postures is also visible in the rhetoric of mainstream political figures. Before the 1997 election Nawaz Sharif, for example, called for a delinking of Pakistan's nuclear programme

[34] Pakistan's permanent representative to the Conference on Disarmament, Munir Akram, told the UN General Assembly session on the CTBT that Pakistan would support the resolution since it was in agreement with the objectives of the treaty, but would not sign the CTBT due to its concerns about the policies of its 'nuclear militant' neighbour. *Dawn*, 11 Sep. 1996.

[35] Accusing the Bhutto Government of giving in to US pressure on the CTBT, Muslim League Information Secretary Mushahid Hussain warned that 'Any unilateral accession to the CTBT without India agreeing to do so will mean that Pakistan has bartered away its nuclear option just because a weak and spineless leadership is at the helm of affairs, which cannot even protect the vital national interests'. *Dawn*, 23 July 1996.

[36] Rightist religious parties have adopted an even more uncompromising stance on the nuclear programme than mainstream political parties. During the CTBT debate, for example, the Milli Yekjehti Council (National Alliance for Religious Harmony) adopted a resolution which not only opposed the treaty but called on the government to test a nuclear device. *Dawn*, 5 May 1996.

[37] Former Foreign Minister Agha Shahi, for example, argues against Pakistani accession to the CTBT since signing the treaty would supposedly foreclose Pakistan's options of holding a future test, while former Vice-Chief of Army Staff Gen. Khalid Mahmood Arif expresses the view that 'Pakistan should have a nuclear weapon. And if we have to, we should demonstrate it at the right time'. *Nawa-i-Waqt* (Lahore), 6 Dec. 1996; and Hussain, Z., 'The bomb controversy', *Newsline* (Karachi), Nov. 1991, p. 34.

from India's. According to Sharif, in view of the conventional disparity between Pakistan and India and the existence of unresolved disputes such as Kashmir, Pakistan could not afford to give up its nuclear weapon programme even if India decided, in the future, to opt for nuclear disarmament, signing the NPT and the CTBT.[38]

Since coming to power, Prime Minister Sharif has adopted a more conciliatory stance. He has responded positively to Indian Prime Minister I. K Gujral's peace overtures, motivated by the desire to expand economic ties with India and to reassure major external actors, such as China and the USA, but there has been no substantive change in the government's rhetoric on the nuclear programme. The PML-N Government continues to support the nuclear programme, justifying it on the grounds of the purported Indian threat. Foreign Minister Gowher Ayub has called for a halt to the crippling arms race between India and Pakistan, but also accuses India of advancing its programme of developing weapons of mass destruction with the intention of threatening Pakistan.[39]

Public opinion in Pakistan is even more inclined towards a pro-nuclear posture since government rhetoric continues to present India as a hostile state. A future shift in policy or public perception in favour of nuclear disarmament will require change in both Pakistan's internal politics and the external environment. Externally, the perceived source of the need to rely on deterrence will have to be re-evaluated and actors from outside the region must support political reforms in Pakistan. Internally, structural impediments to the fair consideration of alternative policies will have to be overcome.

V. The external dimension: US encouragement of the nuclear status quo or of political reforms?

In the external context, the main factors which could lead to a change in Pakistani domestic perceptions on nuclear policy include a reduction of tensions between Pakistan and India and changed official perceptions on both states of the benefits of retaining nuclear weapon

[38] According to Sharif, 'Till Pakistan's security concerns are resolved, Kashmir dispute is settled and no-war pact with India is signed, Pakistan should not ink the CTBT'. *The Muslim*, 6 Aug. 1996.

[39] According to Ayub, 'After freezing its Northwest Frontier Agencies (NEFA) dispute on the McMahon Line and normalization of its relations with China, [the] Indian programme to strengthen its armed forces is clearly aimed at Pakistan'. *The Nation*, 27 Feb. 1997.

options.[40] A sea change in the relationship with India is, however, unlikely to occur in the immediate future since neither side appears willing to reach a mutually acceptable settlement of long-standing differences because of domestic constraints, including vested interests in sustaining bilateral tensions.

Since policy makers in both Pakistan and India also refuse to acknowledge and accept that the role of military power as a factor of prestige and power in interstate relations is declining, their nuclear policies are likely to remain intact. Regional tensions will, therefore, continue to contribute to the retention of nuclear weapon capabilities in South Asia and will, in turn, sustain Pakistani and Indian dependence on their perceived ability to confront each other militarily.

Extra-regional factors could also play a role in changing nuclear policies in South Asia should an international consensus emerge on reversing the current drift towards nuclear competition in South Asia. At present, however, there is little evidence of such a resolve. Important international players are more inclined to forge their response to horizontal nuclear proliferation in line with competing—at times conflicting—national interests. The United States, the most important external actor in the South Asian context, has not demonstrated the ability to create an international consensus or found persuasive measures to change Pakistani and Indian behaviour.

On the contrary, Western analysts and policy makers are contributing to South Asian perceptions of the utility of nuclear deterrence by accepting Pakistani and Indian security-related justifications of their nuclear weapon programmes, for example, recommending that non-proliferation goals should focus on the containment of such proliferation rather than the abolition of nuclear weapons in South Asia.[41] The dangers posed by nuclear competition in a region of extreme volatility are therefore being underplayed, as are the complex domestic imperatives responsible for promoting nuclear proliferation in South Asia.

In the Pakistani context, for instance, there is sufficient historical evidence of the propensity of Pakistan's decision makers to use the

[40] According to the Kroc public opinion poll, over 70% of Pakistan's educated élite favoured a renunciation of the nuclear weapon programme if an agreement was reached with India to resolve the Kashmir dispute.

[41] On the change in US emphasis from rollback to capping, see Gordon, S., 'Capping South Asia's nuclear weapons programs: a window of opportunity', *Asian Survey*, vol. 24, no. 7 (July 1994), pp. 662–64.

external threat for purposes of regime legitimacy. So long as regime legitimacy remains internally disputed, they will be inclined to use security policy to advance their internal goals. Hostile postures towards India will remain in place and continue to serve as the primary justification for Pakistan's nuclear option. Nor are Pakistani policy makers likely to rethink their long-standing policy of relying on military as opposed to diplomatic means to further perceived national interests so long as external relations, particularly security policy, remain the domain of the armed forces. Since the military's interest resides in the country's conventional and nuclear forces, it is unlikely to rethink its approach to regional relationships, including its hard-line approach on nuclear policy.

The USA's failure to address this linkage between domestic imperatives and defence policy has adversely affected the US goal of curbing and reversing Pakistan's nuclear programme. On several occasions US policy makers have conducted direct negotiations with the Pakistani military high command, underestimating the extent to which their behaviour undermines democratic governance and reinforces Pakistani public perceptions of a tacit US acceptance and approval of authoritarian dictates. While the US emphasis on direct engagement with Pakistani military authorities was understandable—indeed, inevitable—during the years of martial law, there has been little change in tactics after the restoration of democracy.

In 1989, soon after the first elected government was formed, there were communications between US President Ronald Reagan and President-elect George Bush, Prime Minister Bhutto and the Chief of Army Staff, Mirza Aslam Beg. Then US Ambassador Robert Oakley admits that the Pakistani Parliament and media were deliberately kept in the dark. As a result they could not play their required role in a democratic polity.[42]

The talks resulted in a decision being taken in 1989, with the consent of President Ghulam Ishaq Khan, Prime Minister Bhutto and General Beg, to cap the nuclear programme. Unlike the military high command, and in spite of a public stance supporting the retention of the nuclear programme, Prime Minister Bhutto proved far more amenable than her predecessors. A year later the agreement was abrogated by the Army Chief without the elected prime minister's knowl-

[42] Interview with Robert Oakley cited in Sheikh, S., 'Secret Pak-US accord on capping N-programme', *The News* (Islamabad), 25 Feb. 1996.

edge.[43] After the PPP Government was dismissed by the military and another round of elections in 1990, the victorious Muslim League publicly adopted a hard-line posture on defence and security issues in general, and towards relations with India in particular. Yet even Nawaz Sharif, conscious of the need to reduce tensions with the USA, was willing to modify the nuclear programme. Although it was capped, Sharif was pressured by Beg not to proceed further and to adopt a more moderate stance on the nuclear issue.[44]

The flexibility of two elected governments suggests that they might be more likely in future to review nuclear policy should the internal balance of power shift in their favour. This willingness on the part of the political leadership to compromise can be attributed to their need to meet the other demands of their constituents which require a diversion of public expenditure from defence to development.[45] Yet to this day the US Administration continues to negotiate with the Pakistani military high command in the belief that this dialogue will one day bear fruit.[46]

US officials appear to believe that all components of the Pakistani Government are equally in favour of nuclear proliferation.[47] They do not seem to recognize that strengthened democratic institutions would promote transparency in policy making in all spheres of activity, including the nuclear issue. As the domestic debate opens, more responsive actors, inclined to question the present directions of defence and security policies, would also participate in the nuclear debate.

[43] Smith, C., 'The topography of conflict: internal and external security issues in South Asia in 1993', *Brassey's Defence Yearbook 1993* (Brassey's: London, 1993), pp. 300–301.

[44] In June 1991, Sharif admitted that he was unable to adopt a flexible posture due to certain internal constraints. Hussain (note 37), p. 28.

[45] In her first term, for example, Bhutto initially attempted to reduce Indo-Pakistani tensions so that there could be a mutual reduction of military expenditure. Under pressure from the military, however, this policy was soon reversed and government rhetoric changed drastically. Sharif, in his second term, is also attempting to improve relations with India, emphasizing the need to reduce military spending and redirect government expenditure to other pressing needs.

[46] During her visit to Pakistan in Jan. 1997, Assistant Secretary of State Robin Raphel held talks with Chief of Army Staff Jehangir Karamat and left without meeting interim Prime Minister Mehraj Khalid.

[47] During his visit to Pakistan to discuss the CTBT, Thomas Graham, President Clinton's Special Envoy on arms control, disarmament and non-proliferation, followed the long-established US practice of holding talks with Foreign Ministry officials followed by extensive meetings at the GHQ with senior army officials. Graham concluded that 'the country's troika—the President, the Prime Minister and the Army Chief—have apparently spoken with one voice on the issue, making it impossible to gain concessions from one or other members of the troika'. Rashid, A., 'Pakistan never to sign CTBT unilaterally', *The Nation*, 11 Mar. 1996.

VI. The internal dimension: democracy and the nuclear debate

Despite the fragile nature of Pakistan's democratic system and the propensity of mainstream political leaders and parties to reinforce the present directions of nuclear policy, there is already evidence of a gradual, albeit limited, opening of the debate over nuclear policy, including a questioning of postures which have heretofore been depicted as integral to Pakistan's national interest. The 1997 election witnessed a first—a political party, the Baluchistan-based Pakistan National Party (Bizenjo), categorically rejected nuclear, chemical and biological weapons in its election manifesto.[48]

While the nuclear debate in the print media is still predominantly the preserve of the pro-nuclear lobby, some analysts have started questioning the nuclear programme. The reactive nature of Pakistan's nuclear policy and the need for Indian and Pakistani reciprocal denuclearization is generally accepted even by critics of Pakistan's nuclear programme. According to Pervez Hoodbhoy, a prominent critic of Pakistan's nuclear policy, 'Pakistan's nuclearization continues to be driven by the need to match the relentless pace of India's militarization . . . unilateral disarmament by Pakistan is . . . both impractical and unwise at a stage where India shows no signs that it would reciprocate the action'.[49]

At the same time, however, critics reject the myth of the deterrent value of nuclear weapons. Hoodbhoy believes there is no guarantee that 'even in the event of a nuclear deterrent, conventional war will not take place'.[50] Another prominent nuclear critic, M. B. Naqvi, states: 'How effective is the Pakistani nuclear deterrent? . . . On both political and military grounds, it is unsound to rely on a deterrent that might fail to deter'.[51]

Such critical views are still in a minority and have had little impact on élite perceptions or policy. Yet the very presence of non-government participants in the debate over nuclear issues is significant. The opening, however limited, of the nuclear debate is itself

[48] *Dawn*, 7 Dec. 1996.
[49] Hoodbhoy, P., 'Pakistan's nuclear choices', *The News* (Islamabad), 22 Mar. 1993.
[50] Hoodbhoy, P., 'Nuclear deterrence—an article of faith', *The News* (Islamabad), 17 Mar. 1993.
[51] Naqvi, M. B., 'The issue is deeper than the CTBT', *Dawn*, 31 Aug. 1996.

the by-product of the transition from authoritarian rule to democratic governance.

It is clear that any meaningful change in Pakistani security policy will require a transformation of the domestic balance of political power. Until recently Pakistan's weak and vulnerable civilian leadership lacked the means to challenge the political status quo and appeared willing to accept without question the political predominance of the military as well as its goals and priorities in the fields of defence and security.

Following the February 1997 election, Prime Minister Sharif has demonstrated a new resolve to assert his authority over competing power centres, including the military. The passage of the 13th Amendment to the Pakistani Constitution on 1 April 1997 removed the President's arbitrary powers of dismissal, a device which had been used by the military to remove three elected governments. Soon after, the Chief of Naval Staff, Admiral Mansurul Haq, was forced to resign by the prime minister following media charges of corruption.[52]

The prime minister has also declared redundant the Council for Defence and National Security, a supervisory body set up by the shadow military government of Prime Minister Mehraj Khalid in January 1997 and given the task of overseeing governmental policy on internal politics and foreign policy.[53]

Although the prime minister's internal standing has been strengthened *vis-à-vis* the military high command, especially since his moves to curb the military's political role have received domestic support, there are limitations on his room to manoeuvre. The military high command has already made public its displeasure at the government's attempts to exert its authority over the military and to restructure and redirect foreign policy. The Chief of Army Staff, Jehangir Karamat, has issued implicit warnings to the government and the media that the military will not tolerate public accusations of corruption in the armed forces, claiming that Pakistan's national security would be undermined. On more than one occasion, the army chief has contradicted

[52] *Dawn*, 27 Apr. 1997.

[53] The CDNS was composed of the President, the Prime Minister, key cabinet members, the Chairman of the Joint Chiefs of Staff Committee and the 3 service chiefs. According to Sharif, the CDNS has lost its 'utility'. Qayum, K., 'CDNS will go, says Nawaz', *The Nation*, 30 Apr. 1997.

the elected government's policy statements on ways to resolve differences with India.[54]

The very fact that the government has condoned such attacks on its authority is indicative of its awareness that in the event of a showdown the military still has sufficient power to remove it by direct or indirect means. Sharif will, therefore, continue to accept the military's guidance in the formulation of defence and nuclear policy in the hope of retaining its approval. The opposition, on the other hand, is equally likely to adopt nuclear postures intended to undermine the government's political credibility and to present itself as an acceptable alternative from the perspective of the military high command. The nuclear rhetoric of the military and the political leadership will do doubt continue to reinforce domestic support for the nuclear programme.

Nuclear arms control is unlikely to gain a significant domestic constituency in Pakistan until the necessary conditions exist, including the opening of the domestic debate and greater transparency in policy making. These preconditions will, in turn, remain dependent on the future course of Pakistani politics. A strengthening of democratic norms will create the necessary environment for openness and transparency. An erosion of democratic institutions, on the other hand, will discourage any critical analysis or debate of the nuclear programme.

[54] Under pressure from the military high command, the government was forced to review its decision to demilitarize the Siachen Glacier simultaneously with India. Sharif through a spokesman had declared his willingness to settle the dispute, but back-pedalled following Karamat's public opposition to withdrawing troops. Akhtar, H., 'Islamabad ready to settle issue of Siachen', *Dawn*, 2 Mar. 1997; 'No troops' withdrawal from Siachen: COAS', *The News* (Islamabad), 26 Mar. 1997; and 'Pakistan ready to discuss n-issue with India', *The Nation*, 26 Mar. 1997.

5. Conventional arms transfers and nuclear stability in South Asia

Eric Arnett

I. Introduction

The lack of progress on arms control in South Asia and growing interest in the region as a market for conventional weapons have recently combined to create new risks for stability. There are at least three sources of instability in the current South Asian situation which are often overlooked in discussions of the region. The first is a difference in perception between Indian and Pakistani élites regarding the risk of war. The second is a difference between Indian and Pakistani expectations of how a war would unfold. The third is the incentive which Indian war plans offer for Pakistan to deploy ballistic missiles, which are generally agreed to be a threat to stability.

This chapter explores the contribution of arms transfers to India's effort to amass an offensive counter-air strike capability that would have an inherent counterforce potential against Pakistani nuclear delivery systems. The chapter concludes that the effect on stability of Indian conventional counterforce attacks has been underestimated. Furthermore, the related goal of inhibiting the proliferation of ballistic missiles is undermined by any transfer that reduces Pakistan's confidence that its air force can survive a campaign of conventional attacks on its air bases.

These conclusions are based on an analysis that strongly suggests that: (*a*) conventional war for limited objectives is still possible in South Asia; (*b*) such a war would probably include Indian counterforce attacks on Pakistani nuclear-related sites; (*c*) Indian conventional counterforce attacks could be quite successful during any conventional war lasting more than a few days; (*d*) current patterns in Indian military procurement are likely to improve both its conventional counterforce capability and its strategic air defences; and (*e*) the erosion of Pakistan's confidence in its defences against Indian conventional counterforce attack creates an almost overwhelming imperative for a force of mobile ballistic missiles, perhaps with a larger number of nuclear warheads than is now thought to be available.

Although mobile ballistic missiles are stabilizing in one sense, since they are less vulnerable than air bases when dispersed, they are seen even by some who believe nuclear weapons are stabilizing as necessarily entailing a risky devolution of launch authority. Furthermore, if more warheads were judged necessary, Pakistan would have to resume production of highly enriched uranium and perhaps conduct one or more nuclear tests, further undermining regional and global arms control goals.

The chapter first discusses the strong emphasis in the Indian Air Force (IAF) on offensive counter-air—that is, conventional attacks on Pakistani air bases—as well as the cooperation of arms suppliers in this effort and Pakistani perceptions of Indian capability. Having laid this groundwork, it describes the implications for Indian and Pakistani perceptions of the risks of war and nuclear escalation.

II. How a war would unfold: IAF offensive counter-air capability

India's primary military modernization effort of the past 25 years has been to amass a strike capability that could be expected to involve attacks on Pakistan's nuclear delivery systems, especially its air bases. Under the conditions discussed below, these attacks could be quite effective. Even if attacks against suspected storage facilities for nuclear weapons or their components were not attempted or were unsuccessful because of poor intelligence, Pakistan would have no means by which to deliver a nuclear weapon unless a force of ballistic missiles had also been activated and dispersed.

Since the Indian offensive counter-air campaign would unfold in the context of a conventional war, it would not have to achieve the prompt 100 per cent effectiveness often held out as the standard for counterforce attacks against nuclear forces. It would simply erode the Pakistani delivery capability over a period of days or weeks. Even if Indian pilots were less effective at destroying hardened aircraft shelters than were unopposed Coalition forces against Iraq in the 1991 Persian Gulf War, superior numbers are in their favour. Once the hardened shelters were destroyed, the remaining Pakistani aircraft would be left in the open where they are much more vulnerable to attack.

India's fleet of strike aircraft is its highest military priority. In a tightly constrained procurement budget, strike aircraft and associated weapons and equipment are being consistently improved, crowding out other procurement programmes and even obliging the government to provide additional special funds. The primary objective for these forces is the destruction of Pakistani air bases. In the 1965 and 1971 wars, the offensive counter-air campaigns were largely unsuccessful (although the IAF achieved air superiority anyway), but since 1971 IAF strike capabilities have improved dramatically. By the 1980s Pakistani officials were already expressing alarm about India's strike capabilities. Despite official concern that India and Pakistan nearly went to war in 1990—and risked nuclear war—the United States and other arms exporters have since supplied India with important additional increments of counter-air capability.

Offensive counter-air attacks in 1965 and 1971

As in most wars of the air age, the first phase of the Indo-Pakistani wars of 1965 and 1971 featured an exchange of offensive counter-air attacks. Pakistan lacks strategic depth and many of the approaches to Pakistani air bases are screened from observation by the terrain, so that its air bases are unusually vulnerable to attack. This is especially true of Sargodha, Pakistan's most valuable air base and presumed nuclear base, and the IAF's highest-priority target at the outbreak of war.[1] Pakistan also has a much smaller air force and infrastructure than India.

The vulnerability of Sargodha—roughly 300 km from the IAF bases at Adampur and Halwara, which are home to three of India's 22 strike squadrons—was vividly demonstrated in the 1965 war.[2] Despite ample strategic warning and an expectant Pakistani combat air patrol above, a dawn attack on Sargodha achieved complete tactical surprise. Six IAF Mystère fighter-bombers were undetected during a low approach and attacked the base before a single aircraft on the ground

[1] Sargodha is always the first air base to be modernized and hosts Squadrons No. 9 and 11, which fly the F-16, Pakistan's highest-status aircraft and the object of considerable public fascination. *The Story of the Pakistan Air Force: A Saga of Courage and Honour* (Shaheen Foundation: Islamabad, 1988), p. 534. It is also suspected of being the storage location for an undetermined number of short-range ballistic missiles.

[2] The defence of Sargodha is likened in an official history to the Battle of Britain. *Story of the Pakistan Air Force* (note 1), p. 379. In 1965, Pakistan operated only 3 main air bases (Sargodha, Karachi and Peshawar) and 5 dispersal bases.

could be scrambled.[3] Only the poor accuracy of the attack prevented disaster for the Pakistan Air Force (PAF).[4] As a result of the weaknesses in Indian offensive counter-air capabilities, total Pakistani losses in 1965 amounted to only 15 of 476 fighters (3 per cent) and 4 of 60 bombers (7 per cent) despite continuous bombing. In comparison, India lost 34 aircraft in the air and 20 on the ground, a total of 10 per cent of IAF combat aircraft.[5]

In the 1971 war, the IAF again bombed Pakistani air bases around the clock, as the PAF expected but for which it was still unprepared. In addition, the IAF was able to disable key ground-based radars early in the war and exploit the resultant holes in Pakistan's early warning coverage. Sargodha was bombed only at night and was virtually undamaged. Other bases were bombed more heavily in what the PAF official history dubs the Battle of the Airfields. Only six PAF fighters and one bomber were destroyed on the ground,[6] but India was again able to establish air superiority. As a result, the PAF lost a total of about 75 aircraft to India's 45 lost.[7]

Despite the passage of more than 25 years, this history underlines the importance of offensive counter-air capabilities in Indian military planning—even when adequate technology was not available—and as a preoccupation of Pakistani planners. Events since 1971 suggest that, if anything, the IAF has increased its emphasis on offensive counter-air and may now have the capability to prosecute it much more effectively.

[3] Scrambling was as much a method of passive defence as an effort to destroy or ward off attackers. Aircraft on the ground were thought to be quite vulnerable at the outset of the war, but airborne aircraft could flee or participate in active defence.

[4] The PAF expected worse, including round-the-clock bombing of Sargodha from the first minutes of the war. Preparations turned out to be inadequate because of poor radar warning (rectified in 1975 with the arrival of the Mirage-IIIRP equipped with look-down radars) and the failure of measures to intercept bombers at night. *Story of the Pakistan Air Force* (note 1), pp. 102, 432–33.

[5] *Story of the Pakistan Air Force* (note 1), p. 429. These are PAF estimates based on information in the Indian press. Other sources have given higher estimates of Indian losses.

[6] *Story of the Pakistan Air Force* (note 1), p. 470.

[7] Jackson, R., *South Asian Crisis* (Praeger: New York, 1975), pp. 116, 121–22; and Ganguly, S., *The Origins of War in South Asia: Indo-Pakistani Conflicts since 1947* (Westview: Boulder, Colo., 1986), p. 100. Jackson ascribes the PAF's poor performance to a sort of conventional self-deterrence: the PAF leadership feared losing its fighters since they would be difficult to replace and therefore kept them out of action in much the same way as Iraq did 20 years later. This would obviously weaken PAF air defences in a future war with India and reserving some aircraft (probably Mirage-Vs) for the nuclear role would further weaken the defence.

India's current conventional counterforce capability

Since 1971, the lion's share of India's admittedly modest military modernization budget has gone to strike aircraft. The most important recent increment of capability—several hundred smart bombs capable of destroying hard targets—has been added since the 1990 crisis, altering the military situation significantly.

In the past 25 years according to public estimates the IAF has received more than 700 MiG-21, MiG-23, MiG-27, Mirage 2000 and Jaguar aircraft used primarily for air-to-ground missions, almost 400 of which are still in service. The dedicated strike fleet is said to number at least 240 and perhaps 380.[8] All of these with the possible exception of some of the MiG-21s are capable of operating at night and delivering cratering and area-denial bombs against runways.[9] In 1996 India concluded a $1.8 billion deal with Russia for 40 Su-30 attack aircraft, after which a special additional appropriation had to be made to the Ministry of Defence.[10] The IAF's 25 Prithvi short-range ballistic missiles will also probably be detailed to counter-air missions.[11]

Most important, in the early 1990s, as IAF interest in the technologies demonstrated in the Persian Gulf War waxed, India closed at least three deals for laser-guided bombs.[12] In 1992 the IAF saw to it

[8] The most advanced strike aircraft are the IAF's 88 Jaguars and 35 Mirage 2000s. The difference in estimates is due to the IAF's high accident rate and some confusion over whether the Mirage 2000 squadrons are oriented towards strike. In Feb. 1997, however, a Mirage 2000 was equipped with a 1000-kg smart bomb. In addition, as many as 140 MiG-21s and 60 MiG-23s may still be operational in the strike/ground-attack role, although only some 26% of the IAF's 'operational' MiG-27s are thought to be airworthy. Ved, M., 'Brilliant hits, some misses at IAF exercise', *Times of India*, 19 Feb. 1997, p. 8; International Institute for Strategic Studies, *The Military Balance 1996/97* (Oxford University Press: Oxford, 1996), pp. 160–61; Hawkins, M., 'The Indian Air Force', *Asia–Pacific Defence Reporter*, Feb.–Mar. 1997, p. 30; 'India postpones MiG-27 upgradation', *The Hindu*, 11 June 1997; and *World Defence Almanac 1996–97*, cited in Khan, M. A., 'The Indian Air Force: structure, equipment and programmes', *Military Technology*, Dec. 1996, p. 14.

[9] 'IAF conducts first-ever night exercises in Asia', *The Telegraph* (Calcutta), 21 May 1992. The article notes that laser-guided bombs were not yet being used in major offensive counter-air exercises in early 1992.

[10] 'Govt increases defence outlay by Rs 1200 cr', *Hindustan Times*, 7 Dec. 1996.

[11] A retired IAF Jaguar squadron leader concludes that counter-air is the only reasonable role for the Prithvi, which can be armed with sub-munitions to damage aircraft on the ground, suppress air base air defences, and delay runway repair. Even if he is wrong, his observation demonstrates the IAF's fixation on counter-air capability. Joshi, J. P., 'Employment of Prithvi missiles', *Journal of the United Services Institution of India*, Oct.–Dec. 1996.

[12] The IAF had no laser-guided bombs in late 1991. Madhok, V. K., 'The trap awaiting India', *Indian Express*, 13 Sep. 1991.

that Russian 500-kg, 750-kg and 1000-kg laser-guided bombs were included in the first package of exports to India from the newly independent and desperate Russian arms industry.[13] Then, in 1994, India received 315 Texas Instruments Paveway II laser-guidance kits for British 2000-lb (900-kg) bombs.[14] US personnel upgraded the Mirages to handle the Paveway and Israeli technicians provided additional expertise.[15] Laser-guided bombs in the 900–1000-kg range are most useful for destroying aircraft shelters, but can also be used against bridges, artillery and armour.[16] At about the same time the IAF bought an unknown number of French 400-kg laser-guided bombs.[17] It is also thought to be operating the Russian AS-12, which exists in laser-guided and anti-radar variants,[18] and at least one other type of anti-radar missile. In March 1997, complete laser-guided bombs were delivered from the USA for the first time and mated to IAF Jaguars.[19]

During the same period the IAF's air defence forces and the other armed services have experienced relative neglect, particularly in the past 10 years.[20] The IAF has repeatedly decided against upgrading its

[13] The Russian KAB series laser-guided bomb was developed from captured Paveways and is available with a penetrating warhead. The KAB series was made available for export in 1991 or 1992, and India may have been the first customer. Raupach, I., 'Russian air-to-surface guided weapons', *Military Technology*, May 1995, p. 12; and Khan (note 8), pp. 9, 14. The KAB series bombs were probably included in a series of deals totalling $300 million closed in 1992. Kanth, D. R., 'Rs 900-cr defence purchases from Russia in hard currency', *Economic Times*, 9 Oct. 1992.

[14] Fulghum, D. A., 'India seeks aerospace niche: Indian Air Force faces tough choices', *Aviation Week & Space Technology*, 25 July 1994, p. 42; and Bedi, R., 'The Eagle has landed', *Indian Express*, 1 Nov. 1996. Only 4 other recipients outside the Organisation for Economic Co-operation and Development (OECD) are publicly known to have the Paveway: Israel, Saudi Arabia, Taiwan and Thailand.

[15] Aneja, A., 'US tech soon for laser guided bombs', *The Hindu*, 28 Aug. 1994.

[16] US Department of Defense, *Conduct of the Persian Gulf War: Final Report to Congress*, Appendix T (Department of Defense: Washington, DC, 1992), p. T-182; Defense Systems and Electronics Group, *Paveway II Laser Guided Bombs* (Texas Instruments: Dallas, Tex., 1995); and Clancy, T. *et al.*, *Fighter Wing* (Berkeley Books: New York, 1995), pp. 147–57. The Paveway also comes in 500- and 1000-lb versions. A 900- or 1000-kg smart bomb requires a penetrating warhead for use against hardened targets, a modification not beyond the ability of Indian personnel.

[17] Baranwal, J. (ed.), *SP's Military Yearbook 1995* (Guide Publications: New Delhi, 1995), p. 133.

[18] Smith, C., SIPRI, *India's* Ad Hoc *Arsenal: Direction or Drift in Defence Policy?* (Oxford University Press: Oxford, 1994), p. 231.

[19] The deal was the subject of a 2-year negotiation. The type, number and weight are not publicly known. Kumar, D., 'IAF acquires advanced US bombs for Jaguars', *Times of India*, 19 May 1997.

[20] Gupta, S., Sidhu, W. P. S. and Sandhu, K., 'A middle-aged military machine', *India Today*, 30 Apr. 1993, p. 76.

MiG-21 air-defence interceptors (as opposed to its MiG-21 strike aircraft) and has underfunded maintenance of its MiG-29s.[21] Development of a new, indigenous interceptor has been hobbled by poor funding, among other problems.[22] Construction of warships has slowed to a trickle, the submarine yards are idle, and modernization of the tank force has been postponed. The Ministry of Defence spent a total of only $15 million on the controversial Agni intermediate-range ballistic missile and $250 million on the Integrated Guided Missile Development Plan (IGMDP) between 1983 and 1994.[23]

The IAF is developing—whether intentionally or simply as a matter of applying state-of-the-art technology to the offensive counter-air mission—a potent conventional counterforce capability. How effective might it be? Since 1971, Pakistan's active and passive air base air defence has been strengthened considerably, but it is not clear that it has kept pace with India's counter-air build-up. The improvements in passive defence include more dispersal bases and hardened shelters at Sargodha and elsewhere.[24] The improvements in active defences comprise primarily the addition of interceptors (Mirage-III and -V and F-16, as well as obsolescent Chinese fighters), surface-to-air missiles (SAMs—the Crotale) and radars. These provide Pakistan with much-improved tactical warning and air defence.

Despite the IAF's efforts and the resources with which it has been provided, a prolonged offensive counter-air campaign probably would not completely destroy Pakistan's nuclear potential if a war were fought in the near future. India's lack of adequate air superiority forces and its weak air defences ensure that the opposition to IAF

[21] Only 40–45 were flying in 1994. 'Poor reliability of MiG-29s hurts Air Force readiness', *Aviation Week & Space Technology*, 25 July 1994, p. 49.

[22] During the first 12 years of the project only about $700 million was funded for the project. Since then it has been budgeted an average of $100 million annually, but planned allocations have not always been granted by the government. These figures account only for the marginal costs of the fighter project, since Indian budgets do not cover the fixed costs of running the relevant organizations. Lok Sabha, Committee on Defence, *Defence Research and Development: Major Projects* (Lok Sabha Secretariat: New Delhi, 1995), p. 6; Silberberg, D., 'One on one: V. S. Arunachalam', *Defence News*, 24 Feb. 1992, p. 86; and Bedi, R., 'The *Jane's* interview: Air Chief Marshall Swaroop Krishna Kaul', *Jane's Defence Weekly*, 6 Nov. 1993, p. 56.

[23] Lok Sabha (note 22), p. 6.

[24] A total of 26 facilities in Pakistan were capable of handling jets in 1988. Of these, 17 were PAF air bases. In 1971, there were 8 main bases and 7 dispersal bases in West Pakistan. *Story of the Pakistan Air Force* (note 1), pp. 10, 438, 515–42. The shelters were a significant impediment to the IAF's counter-air planning before the delivery of the smart bombs. Joshi (note 11).

attacks would remain potent and the effectiveness of such attacks would be limited. Guided-weapon strikes are much less likely to succeed if the weapons are released at low altitude or while the delivering aircraft is itself under attack.[25] While India's conventional counterforce capability exists, is being strengthened and probably could be used to some effect without provoking nuclear escalation, it cannot be expected to provide a high probability of success in depriving Pakistan of its nuclear capability altogether without a complementary investment in strategic air defence.

India's strategic air defences

India operates more than 300 fighter aircraft armed with advanced French and Russian air-to-air missiles. The majority of the aircraft are obsolete MiG-21s and MiG-23s many of which will probably not be upgraded. The most advanced aircraft are 65 MiG-29s that are not serviced adequately and 88 Jaguar and 35 Mirage 2000 multi-role aircraft that are seen as equally if not more valuable in the strike role, but could be swung into the strategic defence role once the offensive counter-air effort had achieved a degree of success. India's SAMs are of older Soviet design.[26]

Given this state of affairs, it might be tempting to see a strict limit to India's abilities to launch and sustain a successful counterforce campaign and defeat counterstrikes. It is true that India is far from a 'defence-dominant' posture with respect to Pakistani nuclear forces. India is making an effort to bolster its strategic air defences, however, and the net effect of these efforts and its conventional counterforce capability is likely to have a significant bearing on the psychological aspects that are at the core of deterrence. This is especially true because of the extent of foreign participation in Indian programmes.

[25] The Paveway III can execute a pop-up manoeuvre that makes it more effective when released at a low level, but India is only known to have received the Paveway II, which must be released from a small 'basket' at an altitude of 6000 m. Aneja (note 15); Clancy (note 16), p. 151; and Texas Instruments, *Paveway III Laser Guided Bombs* (Texas Instruments: Dallas, 1994). The Russian bombs are probably not more capable than the Paveway II. The primary reason for the high success rate (over 50%) of the US-led Coalition in using laser-guided weapons against Iraq was the absence of any threat from air-defence interceptors. Coalition aircraft could fly high and guide their weapons to target without fear of harassment. Matra claims that its 400-kg bomb can also be released at low altitudes. *SP's Military Yearbook* (note 17), p. 133.

[26] *The Military Balance 1996/97* (note 8), p. 160–61. IISS estimates are not necessarily accurate and do not reflect readiness rates.

At the heart of India's current strategic defence effort are indigenous designs for a relatively modern fighter, the Light Combat Aircraft (LCA), and a family of anti-aircraft missiles: the Trishul short-range SAM, the Akash medium-range SAM, and the Astra air-to-air missile. India has also developed a family of air-defence radars, Indra, and is hoping to deploy an airborne warning and control (AWAC) system.[27] Finally, India has resumed imports of the MiG-29.[28]

The LCA is to replace the MiG-21 early in the next century and contains British, French, Italian, Swedish and US technology. The other projects also probably involve Western or Russian technology, although the foreign content is difficult to judge and it is not clear that any of them will be concluded successfully. What matters, however, is the demonstration of interest—in India and the supplier states—in bolstering India's air defences.

The most important increment in Indian capability would be the force multiplier effect afforded by an effective AWAC system.[29] AWAC technology would enable the IAF to gain air superiority, prosecute the offensive counter-air campaign more effectively as a result, and defeat aerial counter-attacks. Because AWAC technology is difficult to assess from outside, especially without advanced signals intelligence, deployment of an Indian AWAC system would force Pakistani planners to make conservative judgements about Indian strategic defences. The result is likely to be a loss of confidence in aircraft as a survivable delivery system in a prolonged war.

Two problems of conventional counterforce

The primary difficulty that conventional counterforce capabilities present to stability is their potential for escalation, which has two aspects.

[27] The budget for developing these and other indigenous projects is intended to reach roughly $1 billion by the turn of the century, but has been underfunded. Government of India, Ministry of Defence, *Annual Report 1995/96* (Thomson: New Delhi, 1996), pp. 9–10; and Arnett, E., 'Military research and development', *SIPRI Yearbook 1997: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 1997), pp. 222–23.

[28] The 10 delivered in 1996 were the first deliveries since 1989, and may only replace those lost in crashes. Anthony, I. *et al.*, 'The trade in major conventional weapons', *SIPRI Yearbook 1997* (note 27).

[29] India was reportedly furnished with the less-than effective Tu-126 AWAC aircraft during the 1971 Indo-Pakistani War. Gunston, B. and Sweetman, B., *Soviet Air Power* (Salamander Books: London, 1978), p. 177. Russian AWAC programmes apparently are still troubled. International Institute for Strategic Studies, *Strategic Survey 1995/96* (Oxford University Press: Oxford, 1996), p. 25.

Most obviously, Indian command authorities might authorize strikes against targets that led their Pakistani counterparts to fear for the survival of nuclear forces. In a war for limited objectives that did not threaten the existence of the Pakistani state, it seems unlikely that the Pakistani command authority would risk using nuclear weapons for fear of Indian reprisals. Nevertheless, Pakistan might resort to nuclear use.[30]

A second concern is the pressure Indian counterforce capabilities put on Pakistani military planners to rely on ballistic missiles as a means of delivering nuclear weapons. If Pakistani planners fear that their air bases can gradually be destroyed during a conventional war and accept that they would be deterred from using nuclear weapons first, they face almost irresistible incentives to deploy mobile ballistic missiles that can be dispersed more widely. The fact that ballistic missiles would fall under the command of the army, which has more clout in Pakistani domestic politics than the PAF, would make such a decision all the more attractive.[31]

III. The probability of war: Pakistani nuclear deterrence

The Indian counterforce build-up poses an important challenge to the increasingly popular school of thought that sees nuclear weapons as a stabilizing influence in South Asia. If the IAF continues to plan as if war were possible, to give every indication that the planning staff actually believes war is possible and to prepare to prosecute a conventional counterforce campaign, it is important to question the belief that war is unlikely because Indian command authorities accept nuclear deterrence and could not hope to limit the damage that would be inflicted by Pakistani nuclear strikes.

[30] The very uncertainty about whether escalation to nuclear use is an appropriate response to ‘inadvertent’ destruction of nuclear delivery and command and control systems is central to Posen, B., *Inadvertent Escalation: Conventional War and Nuclear Risks* (Cornell University Press: Ithaca, N.Y., 1991).

[31] Arnett, E., ‘Choosing nuclear arsenals: prescriptions and predictions for new nuclear powers’, ed. B. Frankel, *Opaque Nuclear Proliferation: Methodological and Policy Implications* (Frank Cass: London, 1991).

The possibility of war in South Asia

Absent from most of the research on nuclear deterrence in South Asia is a discussion of the leeway nuclear weapons leave for attacks meant only to secure limited objectives. This is surprising because all of South Asia's wars since Partition have been fought for limited objectives.

US and NATO planners fretted incessantly over the appropriate response to limited conventional aggression that might create a fait accompli without crossing the nuclear threshold. Although it might be tempting to dismiss NATO's cold war anxiety about the credibility of its deterrent as just so much irrelevant nuclear theology and bureaucratic horse-trading, the same concern must be central to maintaining stability in South Asia. It is the general problem of deterring attacks or wars for limited aims with nuclear weapons, especially if they are not arrayed in such a way as to demonstrate commitment to preventing the specific contingency contemplated by the adversary: if the existence of a state is not at risk, even a command authority facing humiliating defeat always has an incentive to postpone a nuclear response, especially if the adversary too is armed nuclear weapons.

Furthermore, Indo-Pakistani wars have all been for limited aims. India and Pakistan have fought three wars since Partition. The first two were classic limited-objective skirmishes with relatively few casualties. Even in 1971, when India severed the link between West and East Pakistan, creating independent Bangladesh, war aims were kept limited. Most regional specialists expect that future wars—if there are any—will have more in common with the 1965 war than, say, an attempt to conquer all of Pakistan or to separate the Punjab from Sindh.

The Pakistani stake in nuclear deterrence

The idea of stable nuclear deterrence in South Asia has been promoted most energetically by the Pakistani nuclear establishment, the organization with the most to gain from its acceptance. Intimidated by India's burgeoning strike capability and the threat they saw it posing to the nuclear infrastructure, Pakistani officials began asserting the deterrent power of their nuclear programme in the late 1980s. By 1991 they had convinced themselves that war was no longer possible. In the words of Mushahid Hussain, Information Secretary for the rul-

ing Pakistan Muslim League, 'the only reason why these eyeball-to-eyeball confrontations between the Pakistani and Indian armies [in 1987 and 1990] were not converted into military conflict was the nuclear factor'.[32] More grandly, former Chief of Army Staff General Mirza Aslam Beg claimed in 1993: 'There is no danger of even a conventional war between India and Pakistan . . . There is no possibility of an Indian–Pakistan war now'.[33]

Beg specifically links the deterrent to Kashmir.[34] Pervez Hoodbhoy has suggested that the main role for the nuclear option as perceived by Pakistani planners is to deter an Indian conventional attack meant to stop support to insurgents in Indian Kashmir.[35] Since this sort of limited-objective action is difficult to deter with nuclear weapons, it is in the interests of Pakistani leaders to attempt to strengthen the deterrent effect of their nuclear capability by making themselves appear more willing to use nuclear weapons than they really are. As the former director of the Pakistani Inter-Services Intelligence, Asad Durrani, has candidly explained, Pakistan can only hope to succeed in deterring such limited attacks if India's command authorities believe that 'we are primed, almost desperate to use our nuclear capabilities when our national objectives are threatened, for example, a major crackdown on [the] freedom movement in Kashmir'.[36] Remarkably, a number of Western researchers appear to have embraced this wishful gambit as evidence that nuclear deterrence actually obtains in South Asia.[37]

The deterrent effect on India

Despite claims that Pakistan's attempt to promote nuclear deterrence has been accepted by official circles in India, it appears that military

[32] Hussain, M., 'A bomb for security', *Newsline* (Karachi), Nov. 1991, p. 32.

[33] Quoted in Giles, G. F. and Doyle, J. E., 'Indian and Pakistani views on nuclear deterrence', *Comparative Strategy*, Apr.–June 1996, p. 146.

[34] Giles and Doyle (note 33), p. 146.

[35] Hoodbhoy, P., 'Pakistan's nuclear future: capping the nuclear program', eds S. Ahmed and D. Cortright, *Pakistani Public Opinion and Nuclear Weapons Policy* (Notre Dame University Press: South Bend, Ind., forthcoming).

[36] Durrani, A., *Pakistan's Security and the Nuclear Option* (Institute for Policy Studies: Islamabad, 1995), p. 92, cited in Hoodbhoy (note 35).

[37] Cohen, S. P., 'Nuclear neighbors', ed. S. P. Cohen, *Nuclear Proliferation in South Asia: Prospects for Arms Control* (Westview: Boulder, Colo., 1991), p. 12; Lavoy, P. R., 'The strategic consequences of nuclear proliferation: a review essay', *Security Studies*, vol. 4, no. 4 (summer 1995); and Hagerty, D. T., 'Nuclear deterrence in South Asia: the 1990 Indo-Pakistani crisis', *International Security*, vol. 20, no. 3 (winter 1995–96).

planners continue to prepare for conventional war with Pakistan. In 1995, P. R. Chari, a former Additional Secretary of Defence who served as the second ranking civilian responsible for the IAF, concluded: 'It would be feckless to presume that [the current] situation is innately stable, and does not possess any escalation potential . . . That [the 1987 and 1990] crises had the potential to escalate tensions and lead to a conventional conflict is indisputable . . . Conventional war is not implausible'.[38]

Chari cites favourably NATO's cold war approach to raising the nuclear threshold with options for conventional war,[39] and expresses doubts as to whether the Indian military 'believe that Pakistan has a viable deterrent'.[40] This stems in part from the mutually deterring nature of nuclear weapons when they are present on both sides of a conflict: neither side dares to escalate to nuclear use, so the conventionally stronger power retains its advantage.[41] For this reason, he concludes that Pakistan's nuclear capability 'could only serve as a "last-resort" weapon'.[42]

Other sources corroborate Chari. Former Chief of Army Staff General V. N. Sharma in the context of the 1990 crisis: 'I don't see any threat of nuclear capacity or capability in Pakistan'.[43] Another, unnamed retired Indian Chief of Army Staff said: 'The Pakistani nukes do not give me a cold sweat [since Indian nuclear retaliation] could be in the range of ten megatons for one'.[44] As early as 1979, Major-General D. K. Palit suggested that India would respond to a future Pakistani attack despite the presence of nuclear weapons with a combination of conventional counterforce and air defence: 'India's defensive strategy against a likely nuclear conventional [sic] attack by Pakistan must aim, at the first priority, to minimise the actual nuclear threat. In this case Pakistan's weak point will be its delivery system,

[38] Chari, P. R., *Indo-Pak Nuclear Standoff: The Role of the United States* (Manohar: New Delhi, 1995), pp. 80, 136, 216.

[39] Chari (note 38), p. 97.

[40] Chari (note 38), p. 127. Chari emphasizes that the bases of Indian planning for war with Pakistan are not publicly known and is only willing to venture that India is aware 'of Pakistan's quest for a nuclear deterrent'. He then expresses his own doubts as to whether that deterrent is viable.

[41] Chari (note 38), p. 192.

[42] Chari (note 38), p. 220.

[43] Sharma, V. N., 'It's all bluff and bluster', *Economic Times* (Bombay), 18 May 1993.

[44] Gupta, S. and Sidhu, W. P. S., 'The end game option', *India Today*, 30 Apr. 1993.

because for a considerable time to come its only recourse will be the fighter-bomber, of which the Mirage is the most suitable'.[45]

Differing perceptions of the stabilizing effect of nuclear weapons increase the risk of war. The evident belief of key members of the Pakistani leadership that the nuclear option gives them a free hand to support insurgencies on Indian territory, even at a higher level,[46] when combined with the indications that the Indian military explicitly plans for conventional war below the nuclear threshold is a recipe for catastrophe.

IV. Conclusions

Even if the effort to acquire a more robust conventional counterforce capability and supporting air defences makes considerable progress in the years to come, Indian military planners cannot know in advance that an air campaign will be successful in destroying Pakistan's nuclear capability. Nor can they be absolutely confident that a panicky Pakistani leadership would not use its nuclear weapons before losing that capability, although it seems unlikely. Both considerations will militate against a pre-emptive war launched primarily with the aim of destroying Pakistan's nuclear capability, but would not necessarily rule out counterforce strikes in a war fought for other reasons.

A more important issue is whether planning for counterforce operations is a wise idea. Looking at it the other way around, however, given the demonstration effect of recent wars in the Middle East, it is hard to imagine India breaking with previous practice and current thinking about a Revolution in Military Affairs, and choosing instead to prepare for war without an offensive counter-air option, especially after investing so heavily in the requisite capability.

The possibility that Pakistan might deploy more weapons on missiles is not likely to be a determining factor. Indeed, the political ramifications for Pakistan of moving directly counter to US nonproliferation policy would be so serious that India might see some advantage in a political strategy that pushed Pakistan in this direction,

[45] Palit, D. K. and Namboodiri, P. K. S., *Pakistan's Islamic Bomb* (Vikas: New Delhi, 1979), p. 117. Palit was Commandant of the Indian Military Academy.

[46] Indeed, the Pakistani strategy can only succeed if the costs of the insurgency to India become unbearable. Tellis, A. J., *Stability in South Asia* (RAND Corporation: Santa Monica, Calif., 1997), pp. 44–46, 51, 69.

especially since Indian élites apparently do not see ballistic missiles as inherently destabilizing.

The only conditions under which India might de-emphasize counterforce, then, are those under which the possibility of conventional war itself were removed. Although more than 25 years without armed conflict might suggest that the two states are coming to a realization that the costs of war outweigh the benefits, the history of crises since 1971 suggests that neither India nor Pakistan sees those conditions obtaining for the time being. The rapprochement between Prime Ministers I. K. Gujral and Nawaz Sharif promises a better immediate future, but it is too soon to abandon the concern for stability.

How, then, might the current situation be redressed through arms control or export control? Since the smart bombs have already been delivered to India, further transfers of counterforce systems to India are no longer the main issue.[47] The stability of the military balance in South Asia now depends more on preventing improvements in India's strategic defences. As explained above, significant increments in its air defences would both make the conventional counterforce campaign more effective and improve the chances of its intercepting any nuclear-armed aircraft that survived the conventional phase of a war. If Indian air defences could be improved to an extent comparable to Israel's or the anti-Iraq Coalition's, they would be nearly leak-proof.

Although policy makers and researchers have been sensitive to the destabilizing potential of strategic defences in other contexts, they have not recognized the strategic character of air defences in South Asia. If that character is taken into account, the importance of controlling the transfer of air defence technologies should be accepted. In particular, the US policy of preventing the introduction of significant new capabilities to the region should be applied to AWAC technologies, and all potential suppliers—including Israel, Russia and Sweden—should be encouraged not to involve themselves in the Indian AWAC programme, which has made only limited progress in the absence of foreign assistance.[48]

[47] It is worth considering, however, to which other countries the USA should sell the Paveway and whether the US Government can influence French, Israeli and Russian transfers of their comparable systems.

[48] In this regard, the reported Russo-Israeli programme to sell 4 co-developed AWAC aircraft to India is of particular concern. Felgengauer, P., 'Selling Russian arms and transferring arms-building technology to China: a short-term policy with long-term consequences', paper

Since acquiring and deploying more ballistic missiles and associated warheads would be politically costly for Pakistan, it is worth considering the level of risk Pakistani planners might be willing to accept in allowing their air bases and nuclear facilities to become vulnerable before expanding their ballistic missile capability. Like the perception of arms suppliers' cooperation with India, this is inherently subjective and therefore difficult to predict. It may be that Pakistan will be willing to continue accepting the growing vulnerability—and even the destruction—of its air force without resorting to the deployment or use of nuclear ballistic missiles. But it probably should not be the policy of India or its arms suppliers to rely on Pakistan's willingness to continue to bear increasing risk.

An important question for Pakistani planners is what advantages nuclear weapons confer if they cannot prevent a conventional war that might involve successful counterforce attacks and cannot be used for fear of retaliation in kind. The stock responses—that they safeguard Pakistan's existence as an independent state, although that has not been in doubt for some time, and that they are popular with and reassuring to the Pakistani public—are not entirely satisfying.

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