

SANDIA REPORT

SAND2017-4791
Unlimited Release
Printed May 2017

Strategic Stability in South Asia: An Indian Perspective

Brig. (Indian Army, retired) Gurmeet Kanwal

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550

Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC., a wholly owned subsidiary of Honeywell International, Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

Approved for public release; further dissemination unlimited.



Sandia National Laboratories

Issued by Sandia National Laboratories, operated for the United States Department of Energy by Sandia Corporation.

NOTICE: Neither the United States Government, nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, make any warranty, express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government, any agency thereof, or any of their contractors or subcontractors. The views and opinions expressed herein do not necessarily state or reflect those of the United States Government, any agency thereof, or any of their contractors.

Printed in the United States of America. This report has been reproduced directly from the best available copy.

Available to DOE and DOE contractors from
U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831

Telephone: (865) 576-8401
Facsimile: (865) 576-5728
E-Mail: reports@adonis.osti.gov
Online ordering: <http://www.osti.gov/bridge>

Available to the public from
U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Rd.
Springfield, VA 22161

Telephone: (800) 553-6847
Facsimile: (703) 605-6900
E-Mail: orders@ntis.fedworld.gov
Online order: <http://www.ntis.gov/help/ordermethods.asp?loc=7-4-0#online>



SAND2017-4791
Unlimited Release
Printed May 2017

Strategic Stability in South Asia: An Indian Perspective

Brig. (Indian Army, retired) Gurmeet Kanwal
Institute for Defence Studies and Analyses
New Delhi, India

and

Cooperative Monitoring Center
Sandia National Laboratories
P.O. Box 5800
Albuquerque, New Mexico 87185-MS1373

Disclaimer

The dangers of a nuclear conflict in South Asia and the subsequent analysis presented in this paper solely represent the views of the author. They do not necessarily represent the opinion or positions of Sandia National Laboratories, the U.S. Department of Energy, or the Government of the United States nor any other government.

Contents

Nomenclature	7
1 Regional Instability	9
1.1 India-China Relations at the Strategic Level	9
1.2 State of India-Pakistan Relations	10
1.3 Aim of the Paper	11
2 Concept of Strategic Stability	13
2.1 ‘Ugly Stability’ Prevails in South Asia	14
2.2 Competing National Doctrines	16
2.2.1 India’s Cold Start doctrine	16
2.2.2 Pakistan’s Response to Cold Start	21
2.2.3 Full Spectrum Deterrence	22
2.3 Major Shortcomings of Tactical Nuclear Weapons (TNW)	24
2.4 Impact of Use of Tactical Nuclear Warheads (TNW) on Military Operations	25
3 Likely Contours of Future Conflict	27
3.1 India’s Options for Response	27
3.2 Pakistan’s Options for Response	28
4 Instability Leading to Limited War	31
4.1 India’s Nuclear Retaliation: Massive or Limited?	31
5 Conclusion	35
Appendix A: Strategic Stability—A Hypothetical Conflict Scenario Following A (Hypothetical) Pakistan-Sponsored Terrorist Strike in India	37

Figures

Figure 1. Hypothetical deep strike option employing one or more Strike Corps simultaneously	19
Figure 2. Multiple (hypothetical) thrust lines with Integrated Battle Groups (IBG) launching offensive operations to a shallow depth	20

Nomenclature

AFV	Armored Fighting Vehicle
ALCM	Air-Launched Cruise Missile
CAR	Central Asian Republic
CBM	Confidence Building Measures
CCS	Cabinet Committee on Security
CDS	Chief of Defense Staff
CEIP	Carnegie Endowment for International Peace
COAS	Chief of Army Staff
DGMO	Director General Military Operations
EEZ	Exclusive Economic Zone
FGA	Fighter Ground Attack aircraft
GHQ	General Headquarters
GOC-in-C	General Officer Commander in Chief
HM	Hizbul mujahideen
IAF	Indian Air Force
IB	International Border
IBG	Integrated Battle Group
IDSA	Institute for Defence Studies (India)
ISI	Inter-Services Intelligence
J&K	Jammu and Kashmir
JeM	Jaish-e-Mohammad
LAC	Line of Actual Control
LeT	Lashkar-e-Tayebba
LoC	Line of Control
MBRL	Multi-Barrel Rocket Launchers
MFN	Most Favored Nation
NBC	Nuclear, Biological, and Chemical
NCA	Nuclear Command Authority
NRRC	Nuclear Risk Reduction Centers
NRRM	Nuclear Risk Reduction Measures
NWS	Nuclear Weapons State
PAF	Pakistan Air Force
PM	Prime Minister
POK	Pakistan Occupied Kashmir
SPD	(Pakistan's) Strategic Plans Division
SRBM	Short Range Ballistic Missile
SSBN	Submarines with nuclear-tipped missiles
SSM	Surface-to-Surface Missile
TNW	Tactical Nuclear Weapon
UNSC	United Nations Security Council

1 Regional Instability

The security environment in South Asia has been marked by instability for several decades. The foremost causes of regional instability are the nuclear weapons-cum-missile development program of China, North Korea, and Pakistan; the strident march of Islamist fundamentalism; the diabolical nexus between narcotics trafficking and terrorism; the proliferation of small arms; and the instability inherent in the rule of despotic regimes. Instability on the Indian sub-continent is manifested, first and foremost, in the continuing conflict in Afghanistan; its tense relations with Iran and the Central Asian Republics (CAR); Pakistan's struggle against the Taliban; the emerging fissiparous tendencies in Balochistan and Pakhtoonkhwa; the rise of Jihadi Islam; and what some fear is Pakistan's gradual slide towards becoming a "failed state" despite some economic gains in the last five years.

Also symptomatic of an unstable and uncertain security environment in the South Asian region are what some see as Sri Lanka's inability to find a lasting solution to its internal challenges; the potential for Bangladesh's gradual emergence as the new hub of Islamist fundamentalist terrorism and its struggle for economic upliftment to subsistence levels; the continuing negative impact of Maoist insurgency on Nepal's fledgling democracy; the simmering discontent in Tibet and Xinjiang and what some see as a low-key uprising against China's regime; and the Myanmar peoples' nascent movement for democracy. In all these countries, socio-economic development has been slow and, consequently, per capita income is alarmingly low. Trans-border narcotics trafficking—the golden triangle lies to the east of South Asia and the golden crescent to its west—and the proliferation of small arms make a potent cocktail. Ethnic tensions and fairly widespread radicalization, worsened by the advent of the vicious ideology of the Islamic state, add further to regional instability.

1.1 India-China Relations at the Strategic Level

China, a nuclear weapons state (NWS), fought a local border war with India in 1962 over its territorial claims. China is in physical possession of 38,000 sq km of territory that India also claims on the Aksai Chin plateau in Ladakh, Jammu and Kashmir (J&K), and claims the entire Indian state of Arunachal Pradesh (96,000 sq km). The Line of Actual Control (LAC) between these two Asian giants has not been demarcated on the ground or on military maps. Due to the ambiguity regarding the actual ground features over which the LAC runs, patrol face-offs are common. Though procedures have evolved to resolve the transgressions that occur, the possibility of a shooting incident that could trigger a border conflict, which may not remain localized, cannot be ruled out. China appears, to many Indians, to resent the fact that India provided shelter to the Dalai Lama when he fled Tibet after China occupied it. China objects to Indian political leaders visiting Arunachal Pradesh and issues loose-leaf visas to its citizens visiting China. Hence, at the tactical level, the relationship is marked by political, diplomatic, and military instability. However, at the strategic level, the relationship is reasonably stable due

to continuing negotiations aimed at cooperation at the border, flourishing bilateral trade, cooperation in international fora, and similar nuclear doctrines. Both countries have adopted a credible, minimum deterrence nuclear doctrine with a “no first use” posture. Technological developments in the nuclear warhead and ballistic missile field are also believed to have been similar. For these reasons, the issue of strategic stability between China and India is not discussed further in this paper.

1.2 State of India-Pakistan Relations

Relations between India and Pakistan, both nuclear-armed states, have been strained at the best of times. The two countries have fought three wars with each other in 1947-48, 1965, and 1971, and a localized border conflict in the Kargil district of J&K in 1999. The dispute over J&K lies at the heart of the vitiated relationship. The Indian position is that Maharaja Hari Singh of J&K signed the Instrument of Accession and J&K joined India in keeping with its provisions, even as Pakistan-sponsored Razakars and Mujahids—led by army officers—had invaded J&K and were involved in looting, plunder, and rape. Pakistan’s view is that as J&K is a Muslim majority state contiguous to Pakistan, it should have acceded to Pakistan. The Pakistan government and the army consider the merger of J&K with Pakistan as the unfinished agenda of the Partition of the two countries in August 1947.

Other contentious issues of concern include the lack of agreement on the demilitarization of the Siachen Glacier conflict zone,¹ non-demarcation of the boundary at Sir Creek and its impact on the Exclusive Economic Zone (EEZ) of both countries. The growth of bilateral trade has been affected by Pakistan’s failure to give India Most Favored Nation (MFN) status while India did so in 1996.² And, looming large on the horizon is disagreement over the 1960 Indus Waters Treaty, which Pakistan considers unfair despite India having been awarded only 19.48 per cent of the waters as the upper riparian state and Pakistan 80.52 per cent of the waters as the lower riparian state. Goaded by the exhortations of the leaders of organizations with extremist agendas, such as Hafiz Saeed of Lashkar-e-Tayebba (LeT), several mainstream political leaders have called upon the government of Pakistan to “revisit” the 1960 treaty with a view to getting more water for the country.³

¹ In order to pre-empt Pakistani occupation, India occupied the Salto Ridge west of the Siachen Glacier in 1984. The area is north of map reference point NJ 9840, north of which the LoC had not been demarcated after the 1971 war between the two countries and over which neither side had control. Since then, the issue has become contentious and Pakistan has fought several battles to wrest control of the Salto Ridge from India.

² “Pakistan rules out possibility of giving India 'Most Favoured Nation' status: report,” *The Express Tribune*, Pakistan, May 11, 2015, <http://tribune.com.pk/story/884483/pakistan-rules-out-possibility-of-giving-india-most-favoured-nation-status-report/> <http://tribune.com.pk/story/884483/pakistan-rules-out-possibility-of-giving-india-most-favoured-nation-status-report/>

³ Amir Wasim, “Senate asks Govt to revisit Indus Waters Treaty,” *Dawn*, March 8, 2016, <http://www.dawn.com/news/1244274>

Recognizing that large-scale conflict will vitiate the investment climate and, consequently, have an adverse impact on economic development and, in an endeavor to preserve strategic stability, India has exhibited immense restraint despite what many feel is grave incitement from Pakistan. In stark contrast, ever since 1989-90, many Indians feel that Pakistan has used terrorism as an instrument of policy. Its strategy has, they feel, been to bleed India through a thousand cuts. The people who hold this view believe that the behavior of Pakistan's "deep state"—the army and the Inter-Services Intelligence (ISI) Directorate—has been marked by brinkmanship, with provocative actions bordering tantalizingly on those that could lead to large-scale conventional conflict with nuclear undertones. The deep state, they believe, has been waging a proxy war against India since 1989-90 through internationally proclaimed terrorist organizations like the LeT and the Jaish-e-Mohammad (JeM).⁴ Many feel that perceived developments in Pakistan's nuclear arsenal are a matter of concern, not only for India, but also for the international community. As part of its quest for "full spectrum deterrence," Pakistan claims to have developed and fielded the Hatf-9 (Nasr) short-range ballistic missile (SRBM) equipped with a tactical nuclear warhead (TNW) for battlefield use as a weapon of warfighting. The Pakistan army appears to believe that during a future conflict in the plains, a few TNWs can stop the advance of Indian forces across the International Boundary (IB) into Pakistan.

1.3 Aim of the Paper

This paper analyses the state of strategic stability in South Asia with special reference to the efficacy of TNWs as weapons of warfighting, the likely effect on Indian forces if Pakistan detonates TNWs on the columns of the Indian army advancing across the IB on Pakistani territory and, consequently, India's likely response. While every effort has been made to take on board Pakistan's views, concerns, and sensibilities, this paper essentially presents an Indian perspective.

⁴ India's official stand on Pakistan-sponsored cross-border terrorism, which is a major cause of instability, was summarized by the Official Spokesperson of India's Ministry of External affairs during a media briefing on August 14, 2016. http://mea.gov.in/media-briefings.htm?dtl/27323/Transcript_of_Weekly_Media_Briefing_by_Official_Spokesperson_August_18_2016

2 Concept of Strategic Stability

Strategic stability is normally assumed to mean deterrence stability. This assumption is simplistic as the term signifies much more than merely the prevalence of nuclear deterrence between two nuclear-armed states. David Holloway has written that strategic stability “(was) ... defined during the Cold War in terms of deterrence. ... Stability consisted of two elements – crisis stability and arms race stability. ... a crucial political assumption was built into this definition: it was taken for granted that a hostile political relationship existed between the two sides.”⁵ Amoretta M. Hoerber wrote during the Cold War that “... the definition of strategic stability has revolved primarily around the development of a relation of mutual deterrence. ... The concept of deterrence is aimed ... not only against the use of nuclear weapons but also against the use of the threat of nuclear weapons in vital circumstances.”⁶

Thomas C. Schelling is of the view that strategic stability is the “... ‘stability of mutual deterrence...’ ‘Balance’ was a synonym for ‘equilibrium’; and ‘delicate’ was a synonym for ‘unstable’. ... (now) it is difficult to know how many meanings there are for ‘strategic stability’.”⁷ According to Andrei Kokoshin, a well-known Russian strategist, strategic stability is a “... complex interdisciplinary subject ... (with) elements from the natural sciences and technical engineering. As a whole ... it constitutes a subject of political science and political psychology ...” He visualizes the “... emergence of (new) threats against strategic stability ... associated with the proliferation of nuclear weapons ... (and) rooted in ... trans-border extremist organizations (that) are clearly striving to acquire ... weapons of mass destruction. (This) possibility ... has been classified as a supreme threat ... by experts ... (and) state leaders ...”⁸ Strategic stability, then, is a product of deterrence stability, crisis stability, and arms race stability in the context of a hostile political relationship between two nations; for example, an unresolved territorial dispute.

5 David Holloway, “Strategic Stability and U.S.-Russian Relations: A Policy Memo,” Meeting of the SuPR (Sustainable Partnership with Russia) Group, December 6-7, 2011, Washington D.C., PIR Center, Ploughshares Fund, www.pircenter.org/media/content/files/10/13538686602.pdf

6 Amoretta M. Hoerber, “Strategic Stability,” *Air University Review*, July-August 1968
<http://www.au.af.mil/au/afri/aspj/airchronicles/aureview/1968/jul-aug/hoerber.html>

7 Thomas C. Schelling, in Foreword to E. A. Colby, *Strategic Stability: Contending Interpretations*, Strategic Studies Institute, U.S. Army War College, 2013,
<http://www.strategicstudiesinstitute.army.mil/pdffiles/pub1144.pdf>

8 Andrei Kokoshin, *Ensuring Strategic Stability in the Past and Present: Theoretical and Applied Questions*, Belfer Center for Science and International Affairs, Harvard Kennedy School, Cambridge, MA, 2011,
<http://belfercenter.ksg.harvard.edu/files/Ensuring%20Strategic%20Stability%20by%20A.%20Kokoshin.pdf>

2.1 'Ugly Stability' Prevails in South Asia

The state of strategic stability in South Asia has long been a cause of concern for the international community. The relationship between India and Pakistan is marked by instability at the tactical level and can be characterized as a classic case of the stability-instability paradox.⁹ Both in December 2001, when India's Parliament was attacked, and in November 2008, after the terrorist strikes on multiple targets in Mumbai, India and Pakistan had come close to war due to the impact of major terrorist strikes on sensitive targets. Pakistan's proxy war against India is now in its third decade and, despite the peace overtures made by the Modi government, it is showing no signs of tapering off. The increase in trans-LoC infiltration attempts in the summer of 2016 and what many in India perceive as aid provided by the ISI to sustain the unrest in Kashmir Valley, once again indicate an escalation in the intensity of the proxy war.

Some of what many in India see as the major provocations initiated by the Pakistan army and the ISI are enumerated below:

- Low-intensity limited conflict since 1947-48 in Jammu and Kashmir (J&K).
- Large-scale infiltration by Razakars and Mujahids in J&K in 1965 (Operation Gibraltar), followed by offensive operations across the IB in the plains (Operation Grand Slam).
- Pakistan's perceived support to the separatist Khalistan movement in Indian Punjab in the 1980s.
- Pakistan's perceived proxy war in J&K since 1989-90.
- Large-scale intrusions across the LoC in the Kargil district of J&K in the spring of 1999. These intrusions led to the Kargil conflict (May-August 1999). India responded with vigor and evicted the intruders, but with limited application of force. The LoC was not crossed by Indian forces and the fightback was kept localised to the sectors in which the intrusions had occurred.
- Terrorist attack on Indian Parliament while it was in session (December 2001). India mobilized its armed forces (Operation Parakram, December 2001–October 2002), but did not initiate offensive action.
- Terrorist attack on army family quarters at Kaluchak (J&K) in May 2002. India refrained from taking offensive action.

⁹ Robert Jervis: "To the extent that the military balance is stable at the level of all-out nuclear war, it will become less stable at lower levels of violence," *The Illogic of American Nuclear Strategy* (Ithaca: Cornell University Press, 1984), p. 31. (The term "stability-instability paradox" is generally attributed to Glenn Snyder and was coined in 1965.)

- Major terrorist attack by 10 LeT Fedayeen at multiple locations in Mumbai in November 2008.
- Besides continuing incidents of violence in J&K, recent terrorist attacks have been launched at the following locations in 2015-16:
 - Gurdaspur (Punjab) – July 2015.
 - Udhampur (J&K) – August 2015.
 - Pathankot, at the Indian Air Force base (Punjab) – January 2016. This attack was launched by the JeM one week after Prime Minister Narendra Modi’s unscheduled visit to Lahore.
 - Pampore (J&K) – March 2016.

Political rhetoric on both sides of the border also serves to vitiate the atmosphere. The killing of Burhan M. Wani and another terrorist belonging to the Hizbul mujahideen (HM) in a gun fight with the security forces in the summer of 2016 sparked violent protests in the Kashmir Valley. During incidents of stone pelting and assault on police posts and vehicles, over 60 civilians died and several hundred were injured when the police returned fire in self-defense. In some sharp comments, Prime Minister (PM) Nawaz Sharif of Pakistan accused India of human rights violations and said he was waiting for the day when Kashmir would join Pakistan.¹⁰ Speaking from the ramparts of the Red Fort in Delhi on India’s Independence Day, PM Narendra Modi criticized Pakistan for supporting cross-border terrorism and obliquely referred to human rights violations by the Pakistan army in Balochistan, Pakistan Occupied Kashmir (POK), and Gilgit.¹¹ Kanwal Sibal’s presentation of the Indian viewpoint¹² and Imtiaz Gul’s presentation of the Pakistani viewpoint¹³ aptly summarize competing narratives of the two countries.

Despite what it sees as grave provocation, many feel that India has shown immense strategic restraint and has limited its counter-proxy war fightback to operations within its own territory. However, Pakistan’s “first use” doctrine, quest for full spectrum deterrence, the possible development of TNWs as weapons of warfighting, the army’s control over nuclear decision

¹⁰ “Waiting for the day Kashmir joins Pakistan: Sharif,” *The Hindu*, July 22, 2016, <http://www.thehindu.com/news/international/waiting-for-the-day-kashmir-joins-pakistan-sharif/article8887431.ece>

¹¹ Kamaljit Kaur Sandhu, “Modi stumps Pakistan, refers to Balochistan, Gilgit and POK from Red Fort,” *IndiaToday*, August 15, 2016, <http://indiatoday.intoday.in/story/modi-pakistan-balochistan-gilgit-pok-red-fort/1/741100.html>

¹² Kanwal Sibal, “Nawaz Sharif’s posturing over Kashmir has wrecked Pakistan’s chances of a dialogue with India,” *Daily Mail*, August 23, 2016, <http://www.dailymail.co.uk/indiahome/indianews/article-3753439/Nawaz-Sharif-s-posturing-Kashmir-wrecked-Pakistan-s-chances-dialogue-India.html>

¹³ Imtiaz Gul, “Kashmir: Morality and Indian Denial,” *The Express Tribune*, August 23, 2016, <http://tribune.com.pk/story/1168619/kashmir-morality-indian-denial/>

making, and the risk that nuclear weapons may fall into Jihadi hands are all causes of instability. Pakistan views India's Pro-active Offensive Operations doctrine (popularly called Cold Start) as a de-stabilizing doctrine. Soon after the Kargil conflict of 1999, U.S. President Bill Clinton had called Kashmir "the world's most dangerous place."¹⁴ While many in India feel that description did not hold good then, nor, they argue, is it applicable now, the state of stability leaves much to be desired.

Overall, the state of relations between India and Pakistan may be described as "ugly stability"¹⁵ that could evaporate very quickly. The tension caused by the dispute over J&K, infiltration across an active LoC, and what many allege is state-sponsored terrorism emanating from Pakistan are the foremost causes of instability at the strategic level.

2.2 Competing National Doctrines

The terrorist strikes at Mumbai in November 2008 were perhaps the last time that India exercised restraint after a major attack that many in India feel was sponsored by the Pakistan army and the ISI. Indian public opinion was intensely enraged by the strikes in Mumbai, and the people are unlikely to accept inaction on the part of the government or inadequate retaliation in the future. A "major" terrorist strike sponsored by the deep state—on a politically sensitive target, causing large-scale casualties and extensive damage to critical military or civilian infrastructure—in the future is likely to result in Indian military retaliation to inflict punishment on the Pakistan army and its organs with a view to raising their cost of waging a perceived proxy war. Many feel that by detonating a few TNWs, the Pakistan army hopes to checkmate India's "Pro-active Offensive Operations Doctrine," which is colloquially called the "Cold Start doctrine."

2.2.1 India's Cold Start doctrine

As India's Cold Start doctrine has gained international prominence, it is necessary to take note of the circumstances of its origin. Soon after the al Qaeda's attacks on the World Trade Center in New York and the Pentagon in Washington, D.C. on September 11, 2001, terrorists belonging to the LeT attacked the J&K Legislative Assembly at Srinagar in October 2001. This event was followed by a partially successful attack by LeT terrorists on the Indian Parliament in New Delhi even as it was in session on December 13, 2001. Indian public opinion was outraged, and the government felt compelled to take strong action. On December 16, 2001, the Indian armed forces were ordered to mobilize for war.

Operation Parakram, India's first full-scale military mobilization since the 1971 war with Pakistan, brought the two nations close to war on at least two occasions. The first "window of

¹⁴ Jonathan Marcus, "Analysis: The World's Most Dangerous Place?" *BBC News*, March 23, 2000
http://news.bbc.co.uk/2/hi/south_asia/687021.stm

¹⁵ The term 'ugly stability' was used by Ashley Tellis to describe the likely state of India-Pakistan relations over the next few decades. Ashley J. Tellis, *Stability in South Asia* (Santa Monica: RAND, DB-185-A, 1997), p. 64.

opportunity,” as several Indian analysts have come to call it, presented itself around early-January 2002 when the three Strike Corps¹⁶ of the Indian army had completed what many feel was a lumbering mobilization. However, the US and other western governments stepped in with some astute diplomatic maneuvers that resulted in General Musharraf’s commitment in a nationally telecast speech on January 12, 2002, that Pakistan will not permit any terrorist activity “from its soil,” which led India to back off from going to war although the troops remained in place.

The second occasion came after what many believed was a Pakistan army-ISI terrorist attack on the family quarters in the Indian army garrison at Kaluchak near Jammu on May 14, 2002. By this time the Pakistan army had also mobilized and was poised in its defenses. Several fighting units of Pakistan’s 10, 11, and 12 Corps had by then been diverted from the western front,¹⁷ where they had been engaged in the joint fight with US and NATO forces against the remnants of the Taliban and the al Qaeda, to the eastern front against India. It was possible that even large-scale offensive action may have led only to a stalemate. Despite high-pitched rhetoric and saber-rattling, war did not break out though the armed forces continued to remain in a state of readiness. The orders to stand down were finally given by the Government of India on October 16, 2002, and the 10-month long military stand-off between India and Pakistan came to an end. A mutually observed cease-fire went into effect on November 25, 2003.

Many operational and logistics lessons were learned during the long military standoff with Pakistan. Perhaps the most important lesson that emerged was the need to reduce the inordinately long time period that India’s three Strike Corps needed to mobilize for war. By the time these elite formations were ready to be launched across the IB, the international community had, many believe, prevailed on India to give General Musharraf an opportunity to prove his sincerity in curbing cross-border terrorism. The Indian army has debated the mobilization challenge for a long time, as brought out in Praveen Swami’s interview with General S. Padmanabhan, India’s Chief of Army Staff (COAS) during Operation Parakram:¹⁸

‘You could certainly question why we are so dependent on our strike formations,’ he said, ‘and why my holding Corps do not have the capability to do the same tasks from a cold start. This is something I have worked on while in office. Perhaps, in time, it will be our military doctrine...’

Since then, it is believed that Indian army planners have worked hard to come up with a new doctrine for offensive operations that would achieve the desired military objectives without

¹⁶ Strike Corps is the term used for corps-level field formations whose primary task is to launch offensive operations across the international boundary deep into the adversary’s territory. Corps that “hold” ground, i.e., whose primary task is to undertake defensive operations, are referred to as Pivot Corps. India has three Strike Corps for employment in the plains and one Strike Corps is being raised for offensive operations in the mountains. As in other armies, regrouping can be undertaken according to the task that is proposed to be allotted.

¹⁷ Praveen Swami, “War and Games,” *Frontline*, February 15, 2002.

¹⁸ n. 17.

risking escalation to the nuclear level and to reduce the mobilization time of the Strike Corps. After deliberation at length during the biannual conference of the army's Commanders-in-Chief in April 2004, chaired by General N. C. Vij, the COAS, the adoption of the Cold Start doctrine, which is to be executed by "Integrated Battle Groups," was announced.¹⁹ Subsequently, General V. K. Singh, then COAS, said during a media interview,²⁰ "There is nothing called 'Cold Start.' As part of our overall strategy we have a number of contingencies and options, depending on what the aggressor does." However, the term Cold Start is still being used colloquially, especially in think tanks, and is used here to portray India's Pro-active Offensive Operations doctrine.

Many Indian political and military leaders and strategic analysts believe that there is clear strategic space for a conventional conflict below the nuclear threshold, because nuclear weapons are not weapons of warfighting. They are convinced that for Pakistan it would be suicidal to launch a nuclear strike against India or Indian forces, as it would invite massive retaliation. Soon after the Kargil conflict, then-Indian Defense Minister George Fernandes had expressed the view that conventional war can still be fought and that covert proxy wars are not the only option. "Conventional war remains feasible, though with definite limitations, if escalation across the nuclear threshold is to be avoided."²¹

It was in this context that General V. P. Malik, the COAS, had said during a seminar titled "The Challenge of Limited War: Parameters and Options," held at the Institute for Defence Studies and Analyses (IDSA), New Delhi, on January 6, 2000, that there is space for offensive operations under the shadow of a nuclear umbrella. Even during limited war, offensive operations need to be planned as only such operations can provide a decision, in the sense that the desired military aims can be achieved. Offensive operations enable military commanders to impose their will upon the enemy and are designed to achieve strategic and operational objectives quickly and at the least cost. Dynamic characteristics are the hallmark of offensive operations and include taking the initiative, the exploitation of emerging opportunities, the maintenance of momentum and tempo, and "the deepest, most rapid and simultaneous destruction of enemy defenses possible."²² However, the adversary's nuclear red lines impose

¹⁹ "Cold Start to New War Doctrine," *Times of India*, April 14, 2004, <http://timesofindia.indiatimes.com/articleshow/616847.cms>; Also see "No Eyeball to Eyeball any more in New War Doctrine," *Indian Express*, March 6, 2004, http://www.indianexpress.com/india-news/full_story.php?content_id=42467

²⁰ Manu Pubby, "No 'Cold Start' doctrine, India tells US," *Indian Express*, September 9, 2010, <http://www.indianexpress.com/news/no-cold-start-doctrine-india-tells-us/679273/>

²¹ Remarks made during his inaugural address at the National Seminar on "The Challenges of Limited Wars: Parameters and Options," organised by the Institute for Defence Studies and Analyses, New Delhi, on January 5-6, 2000.

²² "Planning and Executing Operations," FM 100-5, *Operations* (Washington, D.C.: US Army Training and Doctrine Command, Headquarters, Department of the Army, 1993), pp. 6-16.

restrictions on the depth to which conventional operations can be planned in a nuclear environment.

Most analysts believe that two major options are available to India for offensive operations in the plains against Pakistan. The first option is to employ the combat potential of India's Strike Corps to advance deep into Pakistani territory (Figure 1) to capture strategic objectives and to bring to battle and destroy Pakistan's Army Reserve (North) and Army Reserve (South) so as to substantially degrade its war machinery. The success of deep strikes with Strike Corps is dependent to a considerable extent on a long warning period. The mobilization process of staging forward the Strike Corps from their peace time locations in Central India by rail and road to first concentration and then assembly areas is laborious. A major disadvantage of deep operations is that the spearheads of the mechanized formations would surely cross the nuclear red lines at some point after the first 48 to 72 hours of battle.



Figure 1. Hypothetical deep strike option employing one or more Strike Corps simultaneously

If a fleeting opportunity is to be exploited, the strike formations must be capable of launching offensive operations from a Cold Start. Within 72 to 96 hours of the issue of the order for full-scale mobilization, four to six strike division battle groups must cross the IB directly from the line of march. They would be launching their break-in operations and crossing the start-line even as the defensive divisions are completing their deployment on the forward obstacles. Only such simultaneity of operations will unhinge the adversary, break the opponent's cohesion and paralyse him into making mistakes from which he will not be able to recover.

To resolve the dilemma of long mobilization periods, the options available were to either move some cantonments forward and bring these closer to the IB to enable mobilization to be completed in a shorter time-frame or find suitable means to enhance the offensive combat potential of the pivot (defensive) corps, or a combination of these two options. It is believed that each of the pivot corps has re-adjusted its deployment so as to relieve a division-sized force for offensive operations. Additional mechanized forces have been allotted so that these divisions can launch offensive operations virtually from the line of march. Also, these divisions, which are being called Integrated Battle Groups (IBG), are not designed to undertake deep operations by themselves. The IBGs are likely to be given only shallow objectives, which will not be expected to threaten the adversary's nuclear red lines (Figure 2).

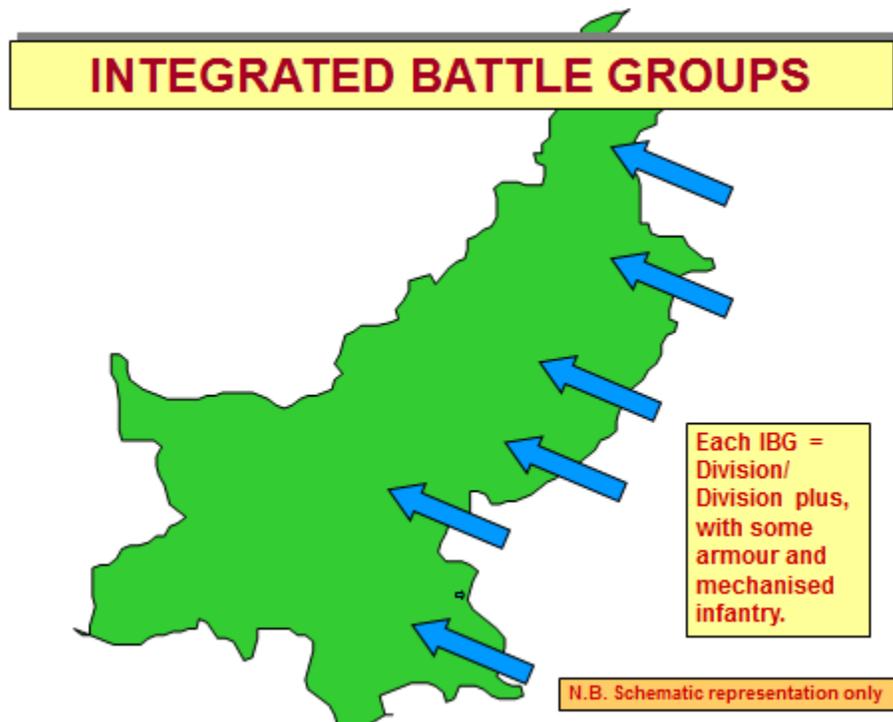


Figure 2. Multiple (hypothetical) thrust lines with Integrated Battle Groups (IBG) launching offensive operations to a shallow depth

Hence, the essence of the Cold Start doctrine is to launch swift offensive operations with multiple thrust lines to a shallow depth with a view to destroying the adversary's war-waging potential and, while doing so through limited maneuver and the application of asymmetries of ground-based and aurally delivered firepower, capture some territory virtually all along the IB. The success of one or more IBGs can be exploited by the Strike Corps, which would have completed their mobilization and would be available as fresh, uncommitted reserve with a very potent strike potential. The Cold Start doctrine has been boldly conceived and will require skillful execution to be implemented successfully.

The late General K. Sundarji, former Indian COAS and a perceptive military thinker on matters nuclear, wrote in 1992: "If the damage suffered by Indian forces (due to a Pakistani nuclear

strike) is substantial, national and troop morale would demand at least a *quid pro quo* response. There might even be a demand in some quarters for a *quid pro quo* plus response.”²³ After over two decades of what many believe is Pakistan’s proxy war and particularly after the perfidious intrusions into the Kargil district of J&K in the summer months of 1999, the terrorist strikes at Mumbai in November 2008 and repeated incidents of terrorism since then, the national mood is that of deep anger at what India feels is Pakistan’s continuing sponsorship of terrorist strikes in India and support to anti-national elements inimical to national security. In case Pakistan chooses to cross the nuclear Rubicon and launches a nuclear strike on India, the Indian Nuclear Command Authority (NCA) will be forced to consider resorting to massive nuclear retaliation on counter-value and counter-force targets. However, it is not a decision that the Political Council of the NCA will take lightly.

2.2.2 Pakistan’s Response to Cold Start

Pakistan’s nuclear doctrine is most likely designed to negate India’s superiority in conventional forces. It appears that Pakistan has adopted a “first use” posture for its nuclear forces and threatens to employ them as weapons of warfighting. Pakistan’s military and political leaders have repeatedly stated that Pakistan would resort to the early use of nuclear weapons in a conventional conflict to prevent its comprehensive military defeat at India’s hands and to ensure that its survival as a viable nation state is not threatened. What many feel is Pakistan’s rationale for its first use doctrine and low nuclear threshold has been cogently spelled out by Lt Gen Sardar F. S. Lodhi²⁴ and Brigadier Saeed Ismat,²⁵ among many other military analysts, and by Pakistan’s civilian intellectuals including Abdul Sattar (Pakistan’s former Foreign Minister), Agha Shahi, and Zulfiqar Ali Khan, who jointly authored an article in *The News* on October 5, 1999 on this issue.²⁶

Feroz Khan has written: “Pakistan... has developed and deploys nuclear forces separate from its conventional forces, but has integrated war plans which include targeting policies for conventional and nuclear weapons.”²⁷ According to Peter R. Lavoy, Pakistan’s nuclear deterrence strategy envisages “escalation dominance.”²⁸ The Pakistan army hopes to achieve dominance at every rung of the escalation ladder through a policy of “graduated response.” F. S.

²³ General K. Sundarji, “Nuclear Deterrence Doctrine for India,” *Trishul*, Vol. 5, No. 2, December 1992.

²⁴ Lieutenant General Sardar F. S. Lodhi (Ret’d, Pakistan Army), “Pakistan’s Nuclear Doctrine,” *Pakistan Defence Journal*, 1999.

²⁵ Brigadier Saeed Ismat (Ret’d, Pakistan Army), “Strategy for Total Defence: A Conceptual Nuclear Doctrine,” *Pakistan Defence Journal*, March 2000.

²⁶ Abdul Sattar, Agha Shahi, and Zulfiqar Ali Khan, “Securing Nuclear Peace,” *News*, Karachi, October 5, 1999.

²⁷ Feroz Hassan Khan, “Pakistan’s Perspective on the Global Elimination of Nuclear Weapons,” in eds. Barry M. Blechman and Alexander K. Bollfrass, *National Perspectives on Nuclear Disarmament* (Washington: Stimson Center, 2010), p. 218.

²⁸ Peter R. Lavoy, “Islamabad’s Nuclear Posture: Its Premises and Implementation,” in ed. Sokolski, *Pakistan’s Nuclear Future*, pp. 133-4.

Lodhi, a former Corps Commander of the Pakistan army, explains the need for graduated response as under:²⁹

In a deteriorating military situation when an Indian conventional attack is likely to break through our defences or has already breached the main defence line causing a major set-back to the defences which cannot be restored by conventional means at our disposal, the government would be left with no option except to use nuclear weapons to stabilise the situation. India's superiority in conventional arms and manpower would have to be offset by nuclear weapons ...

Pakistan's nuclear doctrine would, therefore, essentially revolve around the first strike option. In other words, we will use nuclear weapons if attacked by India even if the attack is with conventional weapons. ... Pakistan would use what Stephen Cohen calls an "option enhancing" policy. This would entail a stage-by-stage approach in which the nuclear threat is increased at each step to deter India from attack. The first step could be a public or private warning, the second a demonstration explosion of a small nuclear weapon on its own soil, the third step would be the use of a few nuclear weapons on its own soil against Indian attacking forces. The fourth stage would be used against critical but purely military targets in India across the border from Pakistan – probably in thinly populated areas in the desert or semi-desert, causing least collateral damage... Some weapons would be in reserve for the counter value role.

2.2.3 Full Spectrum Deterrence

Many believe that Pakistan is working towards the development of what is being called "full spectrum deterrence." This approach supposedly entails the capability to deter the adversary across the full spectrum of conflict from the sub-conventional level, through conventional conflict, to the strategic level. According to Maleeha Lodhi, currently Pakistan's ambassador to the United Nations, Pakistan responded to developments in the nuclear field in India "... by enunciating the doctrine of full spectrum deterrence, which included development of tactical nuclear weapons aimed at restoring the strategic balance and re-establishing stable deterrence."

Full spectrum deterrence is also believed by many to have a technological connotation: the addition of multiple types of warheads and delivery systems to the nuclear arsenal. According to some authors, Pakistan has between 110 and 120 nuclear warheads. They go on to estimate that "Pakistan appears to have six types of currently operational nuclear-capable ballistic missiles, plus at least two more under development: the short-range Shaheen-1A and medium-range Shaheen-3."³⁰ In addition, Pakistan is reported to have developed the Hatf-7 (Babur), land-based

²⁹ n. 24. (Lodhi)

³⁰ Hans M. Kristensen and Robert S. Norris, "Pakistani Nuclear Forces, 2015," *Bulletin of the Atomic Scientists*, Volume 71, Issue 6, November 1, 2015, <http://thebulletin.org/2015/november/pakistani-nuclear-forces-20158845>

cruise missile and the Hatf-8 (Ra'ad) air-launched cruise missile (ALCM) as dual-use missiles, i.e., missiles that can be armed with both conventional and nuclear warheads.³¹ The Naval Strategic Forces Command was raised in 2012 and efforts are believed by many to be underway to mount nuclear-capable SRBMs on surface ships. In due course, the Pakistan navy is likely to fit SLBMs on board conventional submarines. Many believe China is helping Pakistan to build eight conventional attack submarines, and there is speculation that the next step for Pakistan may be to build its own nuclear-powered submarines (SSBNs) armed with SLBMs.³²

Lt Gen Khalid Ahmed Kidwai, advisor to the National Command Authority of Pakistan and former chief of the Strategic Plans Division (SPD), the nuclear planning staff of Pakistan, said during a lecture at the Institute of Strategic Studies, Islamabad, "We are not apologetic about the development of tactical nuclear weapons. They are here to stay and provide the third (tactical) element of our full-spectrum deterrence."³³ Kidwai is believed to have been referring to the 60 km Hatf-9 (Nasr) SRBM tipped with a TNW. As discussed above, the intention appears to be to use it early to bring India's offensive operations to a halt and defeat its Cold Start doctrine. However, even as Pakistan signals a low threshold, the army conducted a series of field exercises (Exercise Azm-e-Nau 1 to 4, 2009-13) over four years whose purpose, many believe, was to determine its weaknesses and rectify them. The following guidelines are reported to have emerged from Exercise Azm-e-Nau:³⁴

- In order to defeat India's Cold Start/Pro-active Offensive Operations doctrine, there is a need to adopt a new concept of warfighting.
- Efforts should be made to pre-empt India's offensive operations through quick mobilisation and a joint army, navy and air force response to conventional threats.
- Indian offensive operations should be stopped as close to the border as possible.
- New counter-IBG brigades need to be raised to counter-attack and deny Indian IBGs' success in advancing even short distances into Pakistani territory.
- The existing Corps reserves should be retained for unforeseen eventualities and employed if necessary.

³¹ Mateen Haider, "Pakistan successfully tests Ra'ad cruise missile: ISPR," *Dawn*, January 19, 2016, <http://www.dawn.com/news/1234015>

³² "Part-1: Will Pakistan now seek nuclear submarines?" QUWA.org, May 1, 2016, <http://quwa.org/2016/05/11/part-1-will-pakistan-now-seek-nuclear-submarines/>

³³ "Tactical N-weapons are here to stay, says adviser," *Dawn*, March 26, 2016, <http://www.dawn.com/news/1248033>

³⁴ "Pakistan army to preempt India's Cold Start doctrine," *The Express Tribune*, June 16, 2013, <http://tribune.com.pk/story/564136/pakistan-army-to-preempt-indias-cold-start-doctrine/>

- If this effort with conventional forces fails, TNWs should be employed on Pakistani territory.

Hence, the essence of Pakistan’s response to India’s Cold Start doctrine is, many believe, to achieve deterrence through “full spectrum” capabilities: through pre-emption and a joint response, fight a ground war well forward with a new concept of warfighting to bring the Indian advance to an early halt; and, if these efforts are unsuccessful, employ TNWs on Pakistani soil. It is likely that Indian defense planners are convinced that Pakistan lacks the capability to successfully contest the simultaneous advance of several IBGs into its territory and that Pakistan cannot risk launching an attack with TNWs even on its own soil for fear that India might retaliate with massive counter force and counter value strikes. Between these two competing doctrines lie the seeds of instability. Michael Krepon and Julia Thompson have written: “Some pathways to conflict, such as premeditated, large-scale conventional warfare ... (1965, 1971) now seem unlikely because of offsetting nuclear capabilities. ... pre-emptive nuclear strikes ... seem even more improbable ... the most likely scenario for conflict ... (is) escalation sparked by spectacular acts of violence on Indian soil by individuals trained and based in Pakistan.”³⁵

2.3 Major Shortcomings of Tactical Nuclear Weapons (TNW)

The term tactical nuclear weapon—TNW—is a misnomer. A more appropriate term for these low-yield, short-range weapons would be “nuclear weapons for battlefield use.” There is nothing “tactical” about TNWs as the employment of nuclear weapons on the battlefield will have a strategic impact and geo-strategic repercussions. As a class of weapons, TNWs are extremely costly and complex to manufacture, as well as difficult to transport, store, and maintain under field conditions due to their intricate electronics components. As missiles capped with TNWs may be required to be fired at short notice, the nuclear warheads have to be kept in a fully assembled state and “mated” with the missile. Due to the short range of SRBMs—Hatf-9 has a maximum range of 60 km—the authority to fire has to be delegated at a certain stage in the battle.

These two factors lead to the dilution of centralized control and create a proclivity to “use them, or lose them.” TNWs are also vulnerable to battlefield accidents and are susceptible to unauthorized use, or what Henry Kissinger had called the “Mad Major Syndrome.” SRBMs are normally dual-use missiles and, as these are forward deployed, they are likely to be targeted with conventional missiles or by Fighter Ground Attack (FGA) aircraft during war. This situation could lead in rare cases to sympathetic detonation of a nuclear warhead resulting in unintended consequences, especially if one-point safety capability is not the norm. Together, all of these disadvantages lower the threshold of nuclear exchanges and make TNWs a dangerous class of weapons.

³⁵ Michael Krepon and Julia Thompson (eds.), “Introduction,” *Deterrence Stability and Escalation Control in South Asia* (Washington D.C.: Stimson Center, 2013), p. 9.
https://www.files.ethz.ch/isn/175015/Deterrence_Stability_Dec_2013_web.pdf

While the Hatf-9 (Nasr) SRBM is technically capable of being capped with a nuclear warhead, whether this has actually been done is not known in the public domain. Many believe that Pakistan's existing plutonium stocks are limited, and some nongovernmental analysts have estimated that as the four Khushab reactors can, together, produce plutonium that is sufficient for only 8 to 10 warheads per year, the decision on how much of the plutonium stock should be allocated for TNWs vis-à-vis that for strategic warheads would be a difficult one to make. Hence, it may be deduced that Pakistan is unlikely to have a large stockpile of TNWs in its nuclear arsenal.

It is a well-accepted lesson of the NATO-Warsaw Pact experience during the Cold War that limited nuclear war is a contradiction in terms. Nuclear exchanges cannot be kept limited and are guaranteed to escalate rapidly to full-fledged nuclear war with strategic warheads designed to destroy large cities and cause hundreds of thousands of casualties. Hence, India is believed to have refrained from adding the TNW class of weapons to its nuclear arsenal. All these things considered, international pressure might profitably be brought to bear on Pakistan to eliminate TNWs from its nuclear arsenal.

2.4 Impact of Use of Tactical Nuclear Warheads (TNW) on Military Operations

Given what many feel would be the low casualty rates and material damage if TNWs are employed on the battlefield, the alleged Pakistani belief is questionable. Simple calculations on the efficacy of TNWs against a mechanized forces combat group advancing in open (desert or semi-desert) terrain are revealing. The combat group (60 armored fighting vehicles – AFVs) would normally advance with two combat teams forward over a frontage of 10 to 12 km and depth of 10 to 12 km. In a Nuclear, Biological, and Chemical (NBC) environment, AFVs generally move forward in buttoned down condition (cupolas closed, full NBC protection).

If a nuclear warhead of 8 to 10 kt is detonated over this combat group, low air burst with the ground zero close to the center, the initial casualties could be in the range of 20 to 30 personnel killed or wounded and 10 to 12 AFVs destroyed or damaged. While the leading combat group would need to regroup (undertake casualty evacuation, repair and recovery and decontamination), the reserve combat group of the combat command/armored brigade could resume the advance in six to eight hours. In the case of an Indian bridge head across a water obstacle being hit, the casualties would be a hundred times greater, but in a bridge head the adversary's troops would be in contact with Indian troops and, hence, a bridge head is a much less likely target.

Ashley J. Tellis, well-known South Asia scholar at the Carnegie Endowment for International Peace (CEIP), has done some calculations and come up with a requirement of an even larger number of warheads of 15 kt yield to cause the advance of an armored division to come to a halt. "... to destroy ... a single ... armored division advancing along a frontage of 15 km with its constituent elements spread out to a depth of 25 km—that is, destroy at least 50 percent of the

500-odd armored vehicles within the formation ... need to employ between 257–436 nuclear weapons of 15 kt yield, depending on the hardness estimates selected for armored vehicles.”³⁶

If the Pakistani army chose to employ TNWs against Indian forces, even if it is on its own soil, they would have broken the nuclear taboo without achieving anything substantive by way of influencing an ongoing military operation. In the process, it would risk the destruction of major cities, its strategic reserves as well as nuclear forces, should India choose to retaliate massively despite the damage it might suffer from the Pakistani nuclear warheads and launchers that may remain intact. The leadership of the Pakistan army has most likely done these calculations. Therefore, the apparently widely held belief in Pakistan that India will be disinclined to retaliate massively for Pakistan’s use of TNWs on its own soil indicates flawed analysis and may actually be nothing but a bluff.

³⁶ Ashley J. Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal* (RAND: Santa Monica, 2001), p. 133.
<https://books.google.co.in/books?id=eR7IiM63oh8C&pg=PA133&lpg=PA133&dq=ashley+j+tellis+%E2%80%A6#v=onepage&q=ashley%20j%20tellis%20%E2%80%A6&f=false>

3 Likely Contours of Future Conflict

As noted above, many believe India has shown immense patience and strategic restraint in the face of grave provocation. However, there is obviously a limit to India's tolerance. Many believe that the large-scale terrorist attack at Mumbai in November 2008 was like the proverbial last straw. In case there is another major terrorist strike in India with credible evidence of state sponsorship from Pakistan, many believe the Indian government will be forced to retaliate militarily.

A "major" terrorist attack sponsored by Pakistan would imply one or more of the following:

- An attack on a politically sensitive target, such as the Parliament or a Legislative Assembly. In January 2016, it had been disclosed that a terrorist group was planning a strike during the Ardh Kumbh celebrations. The Kumbh Mela (festival) and similar religious festivals are both sensitive and vulnerable, and an attack during one of these could result in hundreds of casualties and will result in guaranteed military retaliation.
- An attack in a crowded place like a market that leads to large-scale casualties.
- An attack that results in the destruction of India's war machinery or sensitive civilian infrastructure.

3.1 India's Options for Response

India's response to a major terrorist attack will likely not be time sensitive; nor, many believe, will there be any knee jerk reactions. Even though contingency plans have most likely been made and rehearsed to the extent possible, analysts believe that each option will be carefully considered and its impact analyzed. The military leadership will likely recommend suitable options for approval to the political leadership in order of priority. The options likely to be considered by the Cabinet Committee on Security (CCS) in response to a major terrorist attack could include all or some of the following:

- A – Full mobilisation for war like in December 2001. At that time full mobilisation led to General Musharraf declaring publicly that Pakistan will not allow its soil to be used to launch terrorist strikes. However, this assurance is believed by many to have soon been violated.
- B – Launch air strikes across the LoC and/or International Boundary (IB) on military targets and known terrorist hideouts.
- C – Launch (air and ground) offensive operations across the IB. Resorting to the Pro-active Offensive Operations doctrine or Cold Start would mean war with the inherent risk of escalation to nuclear exchanges.

- D – Limit air and ground retaliation to military targets across the LoC in Pakistan Occupied Kashmir (POK).
- E – Launch covert or hot pursuit operations, like the operation undertaken by the Indian army across the border with Myanmar in 2015.
- F – Seek UN Security Council intervention to have Pakistan declared a rogue state and to have sanctions imposed on the sale or transfer of arms to the armed forces of Pakistan.

Though the Indian military response will be carefully calibrated, any military retaliation in the India-Pakistan context runs the risk of escalation to a larger conflict with nuclear overtones. From an Indian analyst's point of view, the option likely to yield the most dividends with the least risk of escalation would perhaps be Option 'D', i.e. to limit retaliation to military targets across the LoC in POK for the following reasons:

- The Pakistan army—the assumed perpetrators of the terrorist attack—can be directly targeted as it is deployed on the LoC.
- Military action can be limited to air-to-ground and artillery strikes, ensuring that collateral damage is minimised.
- Special Forces and Border Action Teams could be employed for achieving tactical gains, e.g., improving domination across the LoC.
- Major ground forces offensive operations (brigade level and above) can be planned, but held back unless Pakistan escalates.
- Operations can be carefully calibrated to avoid escalation.
- As POK is less sensitive than areas across the IB, especially the Punjabi heartland, Pakistan's response is likely to be limited.

3.2 Pakistan's Options for Response

A military response from India to an alleged Pakistan-sponsored terrorist strike would mean that the Pakistan army-ISI's calculations regarding India's threshold of tolerance have gone completely haywire. It could be hoped that there would be realization in Pakistan's General Headquarters (GHQ) that it would be prudent to keep the level of conflict low so as to minimize casualties as well as material damage and avoid risking escalation. Hence, the Pakistani response is likely to be robust, but limited to targets across the LoC in J&K. The pattern of Pakistan's response would likely closely approximate the Indian strikes. During the Kargil conflict in 1999, it is believed by many that Pakistan Air Force (PAF) fighter aircraft kept Indian Air Force (IAF) fighter aircraft under surveillance from a discreet distance on their own side of the LoC, but

refrained from firing on them even as the IAF aircraft were attacking the field fortifications and the logistics dumps built by the Pakistan army personnel who had infiltrated across the LoC.

Should Pakistan choose to escalate in response to the limited Indian military retaliation described above, for example by attacking Indian air bases in Punjab and Rajasthan, or by launching pre-emptive offensive operations across the IB in Punjab and/or Rajasthan, India might be forced to respond in a similar or stronger manner. This situation would surely result in escalation in the level of the conflict in terms of the application of forces, enlargement of the conflict zone and increase in the time duration. India may consider it operationally expedient to launch offensive operations in keeping with its Cold Start doctrine. The Pakistan army would in that case likely threaten to employ or actually detonate a few TNWs to bring Indian operations to a halt, as it has been repeatedly stating it would do. A hypothetical scenario that depicts such an eventuality and the resultant escalation can be found in Appendix A.

4 Instability Leading to Limited War

The conventional wisdom in India is that there is space for limited war below the nuclear threshold. Though Indian military retaliation for a major terrorist strike would likely be carefully calibrated, under certain circumstances it could escalate to a war in the plains. For example, if Pakistan launched pre-emptive offensive operations across the IB, including strikes on Indian air bases or naval assets. This action will force India to launch limited counter-offensive operations with a view to destroying as much as possible of Pakistan's war waging potential and, in the process, simultaneously capturing a limited amount of territory as a bargaining counter. The capture of territory is unlikely to be a primary aim.

It appears that the Pakistan army seeks to convince India that it has a low nuclear threshold and that its nuclear red lines are fairly close to the IB. Nuclear red lines are a matter of careful assessment based on intelligence inputs. While it might be India's intention to keep the scale and the intensity of the conflict low so as not to threaten Pakistan's nuclear red lines, if its defensive operations do not proceed as planned, the Pakistan army may deem it necessary to use TNWs on its own soil to contest Indian offensive operations. Pakistani analysts (senior retired armed forces officers as well as diplomats and academics) appear to have convinced themselves that no Indian Prime Minister will authorize retaliation with nuclear weapons if Pakistan uses TNWs against Indian forces on its own soil. Presumably, a similar belief appears to many analysts to be held by Pakistan's senior commanders who are in positions of authority in the nuclear chain of command. If this is true, the threshold of use of nuclear warheads as weapons of warfighting might well be lowered. Also, such a belief questions the credibility of India's doctrine of massive retaliation.

4.1 India's Nuclear Retaliation: Massive or Limited?

The hypothetical scenario in Appendix A depicts Pakistani nuclear strikes on Indian forces with TNWs and Indian nuclear retaliation, but does not specify the nature of the retaliation. Most Indian military officers and many analysts comprising India's "nuclear enclave" might expect India to respond to nuclear first use by Pakistan even on its own soil by executing India's clearly stated doctrine, i.e., massive retaliation to inflict unacceptable damage. Many of them believe that one nuclear weapon exploded on one Indian, whether in uniform or not, whether on Indian soil or not, is one nuclear weapon too many and the originator must face the full wrath of India's nuclear forces, i.e., massive retaliation. This belief would imply the launching of large-scale counter force and counter value strikes that will cripple Pakistan as a functional nation state. However, Pakistan's remaining nuclear warheads and launchers—up to 50 percent of the 110 to 120 nuclear warheads that Pakistan is reported to have stockpiled may survive—might very well be employed by Pakistan's GHQ/Strategic Plans Division (SPD) to target major Indian cities. Such strikes would result in casualties numbering hundreds of thousands and large-scale material damage, yet many in India's nuclear enclave might feel it would not substantially affect India's integrity as a coherent nation state.

Doctrines are never absolutely rigid. Their purpose is partly declaratory; partly to provide the basis for organizing a country's nuclear force structure, including the command and control system; and partly to reassure one's own people and, where applicable, one's allies. When deterrence breaks down, doctrine could very well go out of the window. Depending on the prevailing strategic-operational situation, the following options would be available to India:

- Option A – Heed the pleas of the international community; do not respond with nuclear strikes; carry on conventional offensive operations, perhaps move forward one or more Strike Corps.
- Option B – Quid pro quo plus response or flexible response; to Pakistan's use of two TNWs against Indian troops on Pakistani soil, India should respond with three, four or five nuclear strikes against the Pakistan army and/ or navy and/ or air force concentrations on Pakistani territory.
- Option C – Massive retaliation, in keeping with India's stated doctrine; large-scale counter force and counter value strikes.

The lesson learned from the experience gained during the Cold War is that there is no such thing as "limited nuclear exchanges." Nuclear use, even on military targets, is likely to rapidly escalate to full-fledged counter force and counter value strikes. Hence, the phrase "limited nuclear exchanges" appears to many to be a contradiction in terms. India's nuclear doctrine of massive retaliation to inflict unacceptable damage has been clearly stated. India's retaliation to nuclear first use by Pakistan is never discussed by the strategic community in terms of a quid pro quo response or even quid pro quo plus response as such a response would result in the lowering of the nuclear threshold and make battlefield use tempting for Pakistan.

Option A is possibly the least likely option as there would probably be far too much pressure on the Prime Minister (PM) and his Cabinet colleagues to retaliate with nuclear weapons. However, the type of nuclear retaliation that India may resort to under the given circumstances will depend on the deliberations in the Political Council of the Nuclear Command Authority (NCA). The decision will also be influenced by the composition of the Political Council, including the personality and predilections of the PM; the military advice given by the Chief of Defense Staff (CDS) and/or the three Chiefs of Staff; the prevailing strategic-operational situation (whether or not the political and military aims have been achieved, casualties inflicted/suffered, territory captured/lost, material damage caused/suffered); the Parliamentary and political pressures; and the mood of the nation, including the inescapable media frenzy.

Either way, nuclear retaliation is believed by many to be certain. It would be in the interest of both countries to put in place robust confidence building measures (CBM) and nuclear risk reduction measures (NRRM). Michael Krepon and Julia Thompson have highlighted the lack of

nuclear CBMs and NRRMs:³⁷ “Military capabilities and doctrine have far outpaced nuclear risk reduction diplomacy in the 15 years since India and Pakistan tested nuclear devices in 1998 ... New Delhi and Islamabad have made numerous overtures signalling an interest in improving bilateral relations, including declaratory statements ... but these gestures have not led to meaningful steps and have had little impact. The few CBMs and NRRMs that have been reached since 1998 have not begun to serve as a stabilizing offset to technological and doctrinal developments.” Nuclear CBMs and NRRMs are helpful if these have been in place for some time and are tried and tested. The establishment of nuclear risk reduction centers (NRRC) would be a CBM of the greatest significance.

³⁷ n. 35. (Krepon and Thompson.)

5 Conclusion

Riven by the dispute over J&K and alleged state-sponsored terrorism, the India-Pakistan relationship can be described as one that is marked by ugly stability. The sub-continental conflict conundrum is undoubtedly complex, and there are no easy answers to how strategic stability is to be maintained. The conflict also poses a huge international challenge. Even though 50,000 to 60,000 nuclear warheads were produced since the bombing of Hiroshima and Nagasaki in 1945, some basic human survival instinct “repeatedly stayed the finger that might have pushed the button.” With astute political and military leadership and appropriate CBMs and NRRMs, it should be possible to move gradually towards stability at the strategic level and ensure that the nuclear genie remains bottled in South Asia. Clearly, it is not in the interest of either India or Pakistan for deterrence to break down. In case the unthinkable does come to pass, both countries must ensure that a crisis does not escalate to an unmanageable level and that the military and civilian casualties and material damage are kept as low as possible. Mutually acceptable or previously agreed mechanisms for de-escalation should come into play, including the possibility of using back channel interlocutors.

Appendix A: Strategic Stability—A Hypothetical Conflict Scenario Following A (Hypothetical) Pakistan-Sponsored Terrorist Strike in India

Prologue

The scenario in this appendix considers a purely hypothetical situation, which examines possible consequences of actions that some believe might take place in a future conflict.

Many believe India has shown immense strategic restraint in the face of grave provocation but is unlikely to do so in future. It is the conventional wisdom in New Delhi that a major trans-border terrorist strike with the complicity of the Pakistani state will almost certainly trigger Indian military retaliation which, though carefully calibrated, could under certain circumstances spin out of control. The fictional scenario described below could be actually played out, though the probability of its occurrence is low.

The Trigger

Dussehra-Diwali season, 2018. Tensions between India and Pakistan have escalated on the Line of Control (LoC); there has been an increase in the number of infiltration attempts and encounters in the Kashmir Valley. At 1900 hours on T-Day, a major terrorist attack is launched in New Delhi. Serial bomb blasts on multiple targets in crowded markets result in approximately 300 casualties, including 12 foreign tourists.

A captured terrorist is found to be a former major of the Pakistan army. Cutting across party lines, political leaders demand immediate military retaliation against Pakistan. TV anchors join in; passions are inflamed; the voices are shrill.

The Response

T+1. At 1800 hours, the Indian Director General Military Operations (DGMO) calls his Pakistani counterpart on the hotline and asks him to hand over the perpetrators of the terrorist strikes within 48 hours or face military action. The Pakistan DGMO expresses sympathy, but denies that the Pakistan army or the ISI played any role in the attacks. Strategic partners share evidence with India.

T+2. Based on multi-source intelligence inputs, the Indian government determines that the attack was launched by Pakistan's Lashkar-e-Tayebba (LeT), and there is incontrovertible evidence of Inter-Services Intelligence (ISI) involvement in the planning and conduct of the strikes. The Indian Foreign Secretary speaks with his Pakistani counterpart, but Pakistan remains in denial mode. The Cabinet Committee on Security (CCS) meets at 1800 hours and approves military retaliation according to pre-planned contingencies to inflict punishment on the Pakistan army and its limbs.

T+3. At 0600 hours, Indian Air Force (IAF) fighter aircraft launch air-to-ground strikes against military targets in Pakistan Occupied Kashmir (POK); artillery strikes are directed against Pakistan army's forward posts; border action teams initiate offensive action; and, two Special Forces raids are launched on objectives in depth; collateral damage is carefully avoided.

T+4. The Indian armed forces and the nuclear forces are ordered to mobilize for war; Pakistan follows suit on T+5.

T+4 to T+6. The Pakistani response is similar to Indian military action, though on a smaller scale. Pakistan Air Force (PAF) aircraft do not cross the LoC. On T+5 Pakistan expels the Indian High Commissioner and asks the High Commission to close down as its security can no longer be assured. On T+6 India expels the Pakistan High Commissioner.

Conventional Conflict

T+7 to T+9. India continues its military strikes on the LoC and on military targets in POK, causing substantive damage. On T+9, F-16 aircraft of the PAF cross the international boundary in the plains and strike three Indian airfields in the Jammu and Punjab sectors. Six IAF aircraft are destroyed. The Indian CCS approves trans-border offensive operations.

T+10. IAF launches counter-air operations across the full length of the international boundary. At dusk, the Indian army launches several multi-pronged offensive operations into Pakistan in the Sialkot, Lahore (north and south), Cholistan and Thar Desert sectors. The Indian Strike Corps begin reaching their concentration and assembly areas. The Indian Navy enforces a Maritime Exclusion Zone off the Makran Coast of Pakistan; war at sea ensues.

The UN Security Council calls for the immediate cessation of hostilities by both sides.

T+11 to T+13. The PAF retaliates, but with decreasing vigor. The IAF causes substantial damage to Pakistan's corps and army reserves; Indian surface-to-surface missile (SSM), multi-barrel rocket launchers (MBRL), and medium-range artillery take a heavy toll of Pakistan army troops in contact and tactical reserves. India's Integrated Battle Groups (IBG) make good progress, especially in the area south-east of Kasur (Lahore sector) and in the Cholistan Desert.

Pakistan launches a limited offensive with a division plus an armored brigade from Chhamb towards Akhnur in the Jammu Sector. Pakistan's Foreign Minister flies to China.

Nuclear Strikes

T+13. At noon, Pakistan's army Chief warns India through a radio and TV broadcast to pull back immediately or face the wrath of Pakistan's nuclear arsenal. Several of India's IBGs have succeeded in capturing territory to a depth ranging from 8-10 km in Punjab to 20 km in desert terrain and have caused sizable material damage.

On night T+13/14, Pakistan orders the civilian population in Cholistan Desert to be evacuated. The PAF launches a large-scale strike against Indian Strike Corps South that is in the process of

moving forward on easy-to-spot, relatively unprotected railway lines; substantial damage is caused.

T+14. Ignoring the advice of his Prime Minister, Pakistan's army Chief approves nuclear strikes. At 1800 hours, the Army Strategic Forces Command launches two nuclear strikes on the Indian division advancing in the Cholistan Desert, one on each forward brigade. As the Indian columns are advancing in buttoned-down mode and have Nuclear, Biological, and Chemical (NBC) protection, casualties are limited: 60 soldiers killed or wounded, 32 tanks and infantry combat vehicles destroyed or damaged.

The Indian offensive in the Cholistan Desert comes to a temporary halt. The General Officer Commander in Chief (GOC-in-C), Southern Command orders Strike Corps South to be prepared to launch offensive operations according to planned contingencies.

De-escalation

At 1830 hours on T+14, the US President calls the Indian Prime Minister and implores him to desist from retaliating with nuclear strikes; he also offers to mediate and says the US Secretary of Defense is already on his way to Islamabad. Several other world leaders also call the Prime Minister (PM). At 2200 hours, the United Nations Security Council (UNSC) asks India to show restraint and calls on both the countries once again to cease all hostilities forthwith.

As the Indian PM walks in at 1900 hours to chair a meeting of the Political Council of the Nuclear Command Authority, the mood in the National Command Post is grim. The army Chief gives his assessment of the situation and his recommendations; the naval and air Chiefs follow. The National Security Advisor begins by saying that the time for restraint is over. He briefs the PM and the members of the Political Council regarding the discussion that had taken place with the Chiefs of Staff of the armed forces about retaliatory nuclear strikes. After a brief discussion, the Political Council approves Indian nuclear retaliation.

T+15. At 0700 hours, India launches nuclear strikes on targets in Pakistan.

At 1000 hours, the Indian PM makes a radio and TV broadcast to the people of Pakistan and its leadership and warns of nuclear annihilation if even one more nuclear warhead is exploded on Indian troops or on any target in India. He also offers a cease-fire, to come into effect at 1800 hours the same day. Pakistan promptly rejects the cease-fire offer unless India agrees to vacate all Pakistani territory within 48 hours of the cease-fire.

At 1430 hours, with the PM's approval, India's Chief of Army Staff (COAS) authorizes offensive operations by two Strike Corps. At 1830 hours, the spearheads of the Strike Corps begin rolling across the international boundary.

At 2000 hours, the US President speaks with the Pakistani PM who is at General Headquarters (GHQ), Rawalpindi. Pakistan's army Chief, the Chief of the General Staff, the DGMO and the Director General, Strategic Plans Division are listening in. At 2100 hours, Pakistan accepts India's cease-fire offer effective 2200 hours.

Epilogue

State-sponsored terrorism emanating from Pakistani soil must end immediately if the fictional scenario described above is to remain fictional. India and Pakistan must go beyond the cosmetic nuclear confidence building measures (CBM) now in place and institute genuine nuclear risk reduction measures (NRRM). De-escalation during conflict will be possible only if strategic communications are in place and there are trustworthy back channel interlocutors. Finally, third party mediation has its limitations, but can often be useful during conflict.

Distribution

Distribution

1	MS1371	Geoffrey Forden	6833
1	MS1371	Adriane Littlefield	6832
1	MS1371	Amir Mohagheghi	6833
1	MS0899	Technical Library	9536 (electronic copy)

