



Off Ramps from
CONFRONTATION
in **SOUTHERN ASIA**

EDITED BY

Michael Krepon,
Travis Wheeler
and Liv Dowling

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CONFRONTATION
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Preface

I am pleased to present the Stimson Center South Asia Program's latest book, *Off Ramps from Confrontation in Southern Asia*. This volume builds on three decades of Stimson research and writing on the threat of conflict between India and Pakistan and between China and India. Within these 18 chapters, the authors offer novel ideas and confidence-building mechanisms for how regional stakeholders might reduce the risk of conflict. As some despair that international arms control regimes are in decline, *Off Ramps from Confrontation in Southern Asia* offers a welcome exercise in creative problem-solving that could help policymakers, analysts, and students engaged with the region's geopolitics.

In the winter of 2019 — almost exactly two decades after the 1999 Kargil war, when the two recently overt nuclear powers fought a war in the heights of the Himalayas — India and Pakistan were again embroiled in another major inter-state crisis. In response to a terrorist attack on an Indian security force convoy claimed by a Pakistan-based terrorist organization, India conducted airstrikes on Pakistan's undisputed sovereign territory, precipitating Pakistani retaliation that resulted in an aerial dogfight not seen since the 1971 war. Persistent dissatisfaction over territorial disputes and terrorist proxies periodically ignite tensions. This much is familiar. But the next decade's developments in military technology, doctrine, nationalist domestic politics, and rising power competition could further intensify strategic instability in southern Asia. The aftermath of the 2019 crisis warrants new introspection and offers an opportunity to consider new ideas.

The essays in this volume diagnose some of the region's challenges but also propose fresh, pragmatic approaches for risk management, conflict mitigation, and escalation control. Short of conflict resolution and border dispute settlements, incremental forms of information-sharing, communication enhancement, and mutual restraint can have salutary effects and advance U.S. interests in a stable balance of power in southern Asia.

The work by the Stimson Center's South Asia Program has played a critical role for policy audiences, particularly in Washington, Islamabad, New Delhi, and Beijing, owing to decades of thoughtful leadership by Stimson Co-Founder Michael Krepon. The program has provided a fountain of new ideas for confidence-building and nuclear risk-reduction, a convening forum for visiting scholars and practitioners to engage with and learn from their counterparts, and an analytical platform to sharpen the next generation of national security scholars and strategists focused on southern Asia. A testament to this is that many of the essays in this volume are contributed by this next-generation cohort.

Our South Asia Program team is grateful to Jenny Moore for her editing assistance and to Lita Ledesma for her graphic design of the book. We also wish to

thank Heather Byrne and Gillian Gayner for their editorial help, as well as Katie Howard for her administrative assistance.

As always, we are grateful to the institutions that continue to invest in our ambitious agenda. Our work would not be possible without the generous support of the Carnegie Corporation of New York, the John D. and Catherine T. MacArthur Foundation, and the National Nuclear Security Administration.

The views and opinions expressed in this report are solely those of the authors and do not necessarily represent the position of the Stimson Center or of our funders.

Sincerely,

A handwritten signature in black ink, appearing to read 'Sameer Lalwani', with a stylized, cursive script.

Sameer Lalwani

Director, South Asia Program, Stimson Center

Abbreviations and Acronyms

A ₂ /AD	Anti-access/area-denial
ABM	Anti-ballistic missile
ASAT	Anti-satellite weapon
ASW	Anti-submarine warfare
BMD	Ballistic missile defense
CBD	Convention on Biological Diversity
CBMs	Confidence-building measures/mechanisms
CD	Conference on Disarmament
CMD	Credible minimum deterrence
COLREGS	International Regulations for Preventing Collisions at Sea
CTBT	Comprehensive Nuclear-Test-Ban Treaty
CTBTO	Comprehensive Nuclear-Test-Ban Treaty Organization
CUES	Code for Unplanned Encounters at Sea
DGMO	Directors general of military operations
DRDO	Defence Research and Development Organization
FBRs	Fast breeder reactors
FMCT	Fissile Material Cut-off Treaty
FMT	Fissile Material Treaty
HEU	Highly enriched uranium
HINW	Humanitarian impact of nuclear weapons
IAEA	international Atomic Energy Agency
ICBM	Intercontinental ballistic missile
ICOLD	International Commission on Large Dams
IGMDP	Integrated Guided Missile Development Program
IMS	International Monitoring System
INCSEA	Incidents at Sea Agreement
INFCIRC/549	Information circular 549
IPFM	International Panel on Fissile Materials
ISR	Intelligence, surveillance, and reconnaissance
KE	Kinetic energy
LAC	Line of Actual Control
LEMOA	Logistics Exchange Memorandum of Agreement
LoC	Line of Control

MDA	Maritime domain awareness
MEA	Ministry of External Affairs
MIRVs	Multiple independently targetable re-entry vehicles
MOX	Unirradiated mixed oxide
MRVs	Maneuverable re-entry vehicles
MW	Megawatts
MWe	Megawatts electric
MWG	Military Working Group
NCA	National Command Authority/Nuclear Command Authority
NFU	No first use
NMD	National missile defense
NPT	Nuclear Non-Proliferation Treaty
NRRC	Nuclear risk reduction center
NRRMs	Nuclear risk-reduction measures
NSAs	National security advisors
NSAB	National Security Advisory Board
NSG	Nuclear Suppliers Group
NSSs	Nuclear Security Summits
PHWRs	Pressurized Heavy Water Reactors
PLA	People's Liberation Army
PLAN	People's Liberation Army Navy
Pu	Plutonium
S&ED	Strategic and Economic Dialogue
SAARC	South Asian Association for Regional Cooperation
SALT	Stimulate, appreciate, listen/learn, transfer
SLBM	Submarine-launched ballistic missile
SLCM	Submarine-launched nuclear cruise missile
SOPs	Standard operating procedures
SRR	Strategic restraint regime
SSBN	Submersible ship ballistic missile, nuclear powered
START	Strategic Arms Reduction Treaty
TMD	Theater missile defense
UNGA	Committee of the United Nations General Assembly

Introduction

Michael Krepon

In 2017, the Stimson Center's South Asia Program launched a new initiative. We called it the Off Ramps Project. The nuclear competition among China, India, and Pakistan was accelerating with the introduction of new ballistic and cruise missiles. China had begun to place multiple warheads on some of its ballistic missiles, Pakistan advertised its ability to do so, and India demonstrated this capacity in its space program by placing into orbit many satellites from a single space launch vehicle. China and India made down payments on deploying limited anti-ballistic missile defense programs. All three countries seemed susceptible to a "counterforce compulsion" that gains traction when warhead totals rise and when accuracies in missile guidance beckon. Under these conditions, target lists tend to expand from cities to military installations.

Military competitions can be muffled by diplomacy and by mutually beneficial economic engagement. Regrettably, serious, problem-solving diplomacy is absent in both contentious pairings. Direct economic engagement is limited between India and China and far more limited between India and Pakistan. Cooperation in dealing with pressing water and environmental concerns is largely absent. Over the past decade, there has been no progress in negotiating new confidence-building and nuclear risk-reduction measures. There has been no progress in ameliorating border disputes. India has made an awful mess of its dealings with Muslims residing in Kashmir, most probably with an assist from Pakistan. Kashmir looms large in Pakistani narratives, with hardly a word about China's large-scale "re-education" camps for its Muslim population.

Whenever an Indian prime minister has taken an initiative to improve relations with Pakistan, an attack against Indian troops along the Kashmir divide usually has followed. Likewise, whenever an Indian prime minister tries to studiously ignore Pakistan, an attack against Indian troops along the Kashmir divide usually has followed. On two occasions during this project — after India suffered serious losses at Uri in September 2016 and after the attack at Pulwama in February 2019 — Prime Minister Narendra Modi responded with force, first across the Kashmir divide and then beyond the Kashmir divide into Pakistan's Khyber Pakhtunkhwa Province. Pakistan then responded with airstrikes of its own, confined to Indian-controlled Kashmir, and acquitted itself well in aerial combat.

No crisis between India and Pakistan plays out neatly or predictably. Instead, each has its own unique complexities and consequences. It is safe to assume, however, that unless Pakistan's military and intelligence services dramatically change course, there will be more crises sparked by the usual triggering mechanism — an action producing mass casualties by individuals affiliated with groups based

in Pakistan. Pakistani authorities reject this assumption's validity, but until they take concerted and irreversible steps against anti-India militant groups — before rather than after such attacks — Islamabad's claims of innocence will fall on deaf ears to external audiences.

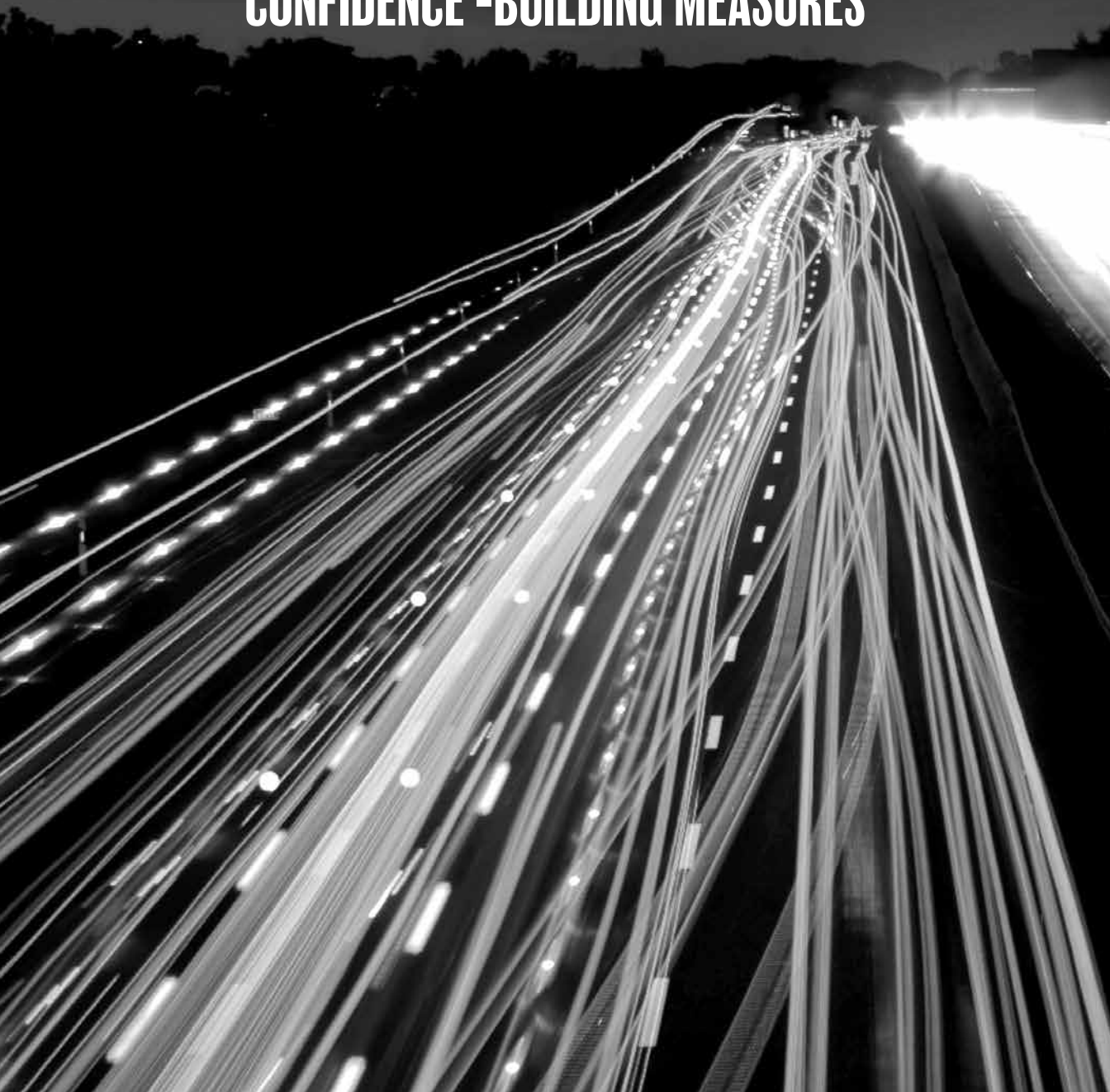
Surprise has been a hallmark of wars and crises on the subcontinent: their initiations or outcomes have been unexpected by one and sometimes both parties. It is therefore reasonable to expect that future crises and clashes between India and Pakistan might take unexpected turns. The nuclear cloud hanging over the subcontinent has contributed to restraint during crises, but New Delhi has signaled an unwillingness to be bound by previous rules of engagement, while Rawalpindi seems confident that it can handle whatever India has to offer. This does not bode well for the future.

Relations between India and China are similarly in flux, as exemplified by the Doklam standoff in the summer of 2017. In this instance, Beijing's road-building activities generated a surprisingly stiff response from New Delhi. But cooler heads prevailed, and high-level diplomacy by Narendra Modi and Xi Jinping extended this cooling off period. Nonetheless, conditions remain in place for further confrontation along the Line of Actual Control, with neither leadership initiating concerted diplomacy to resolve their border dispute. Beijing continues to provide Pakistan with diplomatic cover when anti-India militant groups strike Indian targets, as well as military assistance. In addition, arms transfers between China and Pakistan are on the rise while New Delhi seeks to build up its naval capabilities against China's blue-water navy.

What to do? When governments refrain from adopting useful diplomatic initiatives, it is the responsibility of conscientious analysts to offer useful initiatives that might be considered once political conditions permit. The Stimson Center has asked rising talent in this field, as well as a few veterans, to offer creative ideas that can help ameliorate and decelerate the increasingly dangerous competition between Pakistan and India and between India and China. While Stimson does not endorse each and every initiative in these pages, we emphatically do endorse outside-the-box thinking that might contribute to a more peaceful and secure southern Asia.

Part 1

EXPAND EXISTING CONFIDENCE - BUILDING MEASURES



Launch an Expanded Missile Flight-Test Notification Regime

Frank O'Donnell

China, India, and Pakistan are engaged in a nuclear competition of growing intensity. The increased range and destructive capacity of regional ballistic-missile-delivery vehicles means that new targets can be held at risk. India's 5,500-km-range Agni-V ballistic missile now places Chinese east coast targets at risk, while Pakistan's 2,750-km-range Shaheen-III missile is designed to reach Indian destinations as far afield as the Andaman and Nicobar islands. Further increases in ballistic missile ranges could be forthcoming.

This competition is magnified by the advent of South Asian nuclear-capable or nuclear-armed cruise missiles, as well as the growing importance of cruise missiles in conventional force postures and war plans. Compared to ballistic missiles, cruise missiles are more difficult to track on the ground or in flight; have a smaller launch and radar cross-section flight signature; and can more easily evade interception measures through low-flying trajectories, supersonic speed potential, and flight paths that circumvent air defense installations. If ballistic missile defenses (BMD) are deployed, a high-value enemy target can be concurrently attacked by cruise and ballistic missiles, or by a cruise missile barrage arriving from multiple directions.¹ India's national technical means to detect cruise and ballistic missile launches and flights are fairly limited, while Pakistan's are nonexistent.

The emerging prospect of missiles with dual conventional and nuclear missions also complicates efforts to build stability within this regional nuclear competition. Dual-capable missile proliferation elevates ambiguity in nuclear postures and the accordant risk of misinterpretation of missile-related activities. In envisioning policy approaches to reduce the scale of the South Asian nuclear rivalry, efforts to introduce clarity around missile programs and intentions therefore merit special attention.

I propose an innovative nuclear confidence-building and risk-reduction measure to ameliorate the risks of this intensified missile competition. My proposal is the integration of missile flight-test notification agreements between three pairings of states: India and Pakistan, the United States and Russia, and Russia and China. In addition, to attain the maximum stabilization benefits, I propose that these pre-notification agreements be harmonized and expanded.

Dangerous Trajectories

A survey of recent regional missile developments reveals the intensity of this

competition. Adding to its portfolio of nuclear platforms targeted at India, Pakistan has recently announced the Shaheen-III, the Nasr battlefield nuclear missile, and the Ababeel, a 2,200-km-range ballistic missile designed to host multiple warheads.² Cruise missiles, such as the ground-launched Babur and air-launched Ra'ad platforms, also appear set to assume a greater role in Pakistan's nuclear posture. Pakistani officials have indicated that cruise missiles would ensure a sustained, credible nuclear strike capacity in light of India's emerging BMD capabilities.³ In seeming preparation for a naval nuclear deterrent force, Islamabad recently tested a 450-km-range Babur-III submarine-launched nuclear cruise missile.⁴ The Babur model is additionally likely to be assigned conventional missions, reflecting the rising importance of cruise missiles to general offensive strike planning.⁵

Indian nuclear advancements are increasingly concentrated on the task of posing a credible threat to China. From Rawalpindi's perspective, these capabilities also generate greater challenges for Pakistan's nuclear survivability. As well as the Agni-V, New Delhi is developing submarine-launched 3,500-km-range K-4 and 700-km-range K-15 ballistic missiles in support of its nascent *Arihant*-class (SSBN) fleet.⁶

India is also engaged in an active cruise missile program, featuring the 1,000-km-range Nirbhay and 600-km-range hypersonic Brahmos missiles, with both platforms featuring land, air, and sea variants. While the Nirbhay is the more likely of the two to be assigned nuclear missions, Chinese media has nevertheless recently expressed concern regarding the assignment of a Brahmos regiment to the Indian Army's 41st Artillery Division in Arunachal Pradesh, close to the Line of Actual Control with China.⁷ Furthermore, a forthcoming Brahmos-II (K) missile is designed to eliminate "hardened targets such as underground bunkers and weapons storage facilities."⁸

China hosts the most advanced missile capabilities in this triangular competition, and is continuing to improve the mobility and destructive capacity of its forces. Chinese ballistic missiles intended for Indian targets reportedly include 1,750-km-range DF-21 and 7,000-km-range DF-31 ballistic missiles. Beijing is increasing its number of road-mobile DF-21 missiles, and reportedly is exploring future multiple-warhead variants of the DF-31.⁹ In the naval domain, China is assigning 7,000-km-range JL-2 missiles to its *Jin*-class SSBN fleet.¹⁰ Chinese security managers are furthermore experimenting with potentially nuclear-capable hypersonic glide vehicles, designed to evade BMD systems, with a successor to the DF-21 as a likely candidate missile to carry this new vehicle.¹¹

China also possesses an extensive and growing armory of cruise missiles, with the ground-launched 1,500-km-range DH-10 and air-launched CJ-20 land attack cruise missile models as possible candidates to be assigned nuclear missions.¹² While continuing to expand its stockpiles, China is also focusing upon indigenously developing supersonic cruise missiles, further augmenting the threat posed by these platforms. The sheer scale of the contemporary South Asian ballistic and cruise missile competition is highlighted by the table below, summarizing missile flight-test activities since 2016.

**Table: Ballistic and Cruise Missile Flight-Tests
(Including BMD Tests), 2016-March 2017¹³**

DATE	STATE	MISSILE TYPE	MISSILE MODEL
March 11, 2017	India	Cruise	Brahmos (Ground-launched variant)
March 1, 2017	India	BMD	Advanced Area Defence
February 12, 2017	India	BMD	Prithvi Air Defence
January 24, 2017	Pakistan	Ballistic	Ababeel
January 24, 2017	India	Ballistic	Pinaka Mk. 2
January 12, 2017	India	Ballistic	Pinaka Mk. 2
January 9, 2017	Pakistan	Cruise	Babur-III
January 2, 2017	India	Ballistic	Agni-IV
January 2017	China	Ballistic	DF-5C
December 26, 2016	India	Ballistic	Agni-V
December 21, 2016	India	Cruise	Nirbhay (Ground-launched variant)
December 14, 2016	Pakistan	Cruise	Babur-II
December 2016	China	BMD14	DN-3
November 28, 2016	China	Ballistic	DF-21C (10 tests)
November 22, 2016	India	Ballistic	Agni-I
November 21, 2016	India	Ballistic	Prithvi-II (2 tests)
May 27, 2016	India	Cruise	Brahmos (Ground-launched variant)
May 21, 2016	India	Ballistic	Pinaka
April 29, 2016	China	Ballistic	DF-21 (with DF-ZF hypersonic glide vehicle)
April 12, 2016	China	Ballistic	DF-41
April 9, 2016	Pakistan	Cruise	Zarb
March 31, 2016	India	Ballistic	K-4
March 7, 2016	India	Ballistic	K-4
March 2016	China	Cruise	YJ-62
February 5, 2016	China	Ballistic	DF-21C/D
January 18, 2016	Pakistan	Cruise	Ra'ad

In this rapidly evolving context, security dilemma effects could be amplified by opacity surrounding these missile programs. States could calculate their nuclear requirements based upon worst-case assessments of these rival strategic activities, with an enhanced risk that these interpretations could be incorrect. An additional issue is the growing prominence of missiles with potential dual conventional and nuclear missions, with the DF-21, Babur, and Nirbhay among

candidates to hold these multiple assignments.¹⁵ This trend could lead adversaries to wrongly assume the status of missiles being readied or targeted in a crisis, threatening inadvertent escalation.

India and Pakistan have negotiated confidence-building and nuclear risk-reduction measures. Notable initiatives include a 2007 agreement on immediate notification of nuclear accidents; a 1991 accord to notify each other, and limit the geographic space, of major military exercises; a 1988 agreement to refrain from attacking nuclear installations, involving an annual exchange of details of designated facilities, and — especially for our purposes — a 2005 arrangement on pre-notification of ballistic missile flight-tests.

However, these isolated commitments have not yet led to further-reaching arms control or stabilization initiatives, including prospective nuclear force and infrastructural reductions. As India's nuclear force serves to deter China as well as Pakistan, India has rejected Pakistan's proposals for bilateral arms control agreements. China has not participated in the above mechanisms, and largely involves itself in South Asian nuclear risk-reduction efforts only through regular restatements of its no-first-use doctrine. To attenuate the intensity of the South Asian nuclear and missile rivalry, a greater Chinese commitment to confidence-building and nuclear risk-reduction initiatives is needed. Pre-notification of missile flight-tests is one useful way to proceed.

The Proposal

An innovative approach to address this challenge consists of combining, harmonizing, and expanding the bilateral missile flight-test pre-notification accords developed by India and Pakistan, China and Russia, and Russia and the United States. This would attain dual goals of enhancing the effectiveness of the South Asian ballistic missile flight-test notification regime, while securing the initial integration of China into subcontinental nuclear confidence-building measures.

Under the 2005 India-Pakistan missile launch accord — the foundational element of an expanded and integrated regime — Islamabad and New Delhi have committed to inform each other of a planned five-day period within which a ballistic missile test will take place, with three days' notice of the initiation of this window. The notification includes a warning of the air and naval areas to be affected by the test. India and Pakistan have also pledged that missiles will not overfly the international border and/or Line of Control, and that their trajectories will remain at least 40 km away from and land at least 75 km from these boundaries.¹⁶

As one of the few nuclear risk-reduction and confidence-building agreements to be instituted between India and Pakistan, the initiative has significant stabilization benefits. In providing solid early confirmation that a missile launch is a scheduled test, rather than the first salvo of an offensive strike, the regime reduces the risk of strategic alerts or counter-mobilizations based upon a misreading of missile

activity. This can prove especially valuable within a crisis, when security managers are particularly sensitive to any missile movements and flight-tests.

Nevertheless, this regime evidences significant limitations. First, it entirely omits notifications of cruise missile flight-tests, leaving the dangers of misinterpretation of cruise missile launches and deployments unaddressed. Second, the accord permits multiple launches within the notified window. Third, China is absent from the agreement, despite planning “arguably the world’s most missile-centric approach to warfare today.”¹⁷ As Beijing continues to introduce and flight-test new missiles without any prior notification to New Delhi, the risk of Indian worst-case assumptions regarding Chinese nuclear intentions and capabilities remains unmitigated.

Beijing has, however, agreed to a bilateral accord with Moscow on pre-launch notifications. As the most limited of the three regimes considered here, China and Russia have committed only to inform each other of flight-tests of ballistic missiles with a 2,000-km-plus range and a trajectory approaching their border.¹⁸ By comparison, under a 1988 agreement, Russia and the United States have committed to pre-notify each other of all intercontinental ballistic missile (ICBM) and submarine-launched ballistic missile launches, with this arrangement incorporated into the 1991 Strategic Arms Reduction Treaty. This regime requires at least 24 hours’ notice of a four-day window within which flight-tests will be conducted, with associated demarcation of the test area. A bilateral memorandum in 2000 extended the remit of these notifications to include all ballistic missile launches with a range or peak altitude greater than 500 km.¹⁹

However, the shortcomings of these U.S.-Russian initiatives echo those of the 2005 subcontinental regime. While the 1987 Intermediate-Range Nuclear Forces Treaty bans possession, production, and testing of ground-launched ballistic and cruise missiles with a range of between 500 km and 5,500 km, these U.S.-Russian arms control and disarmament agreements still lack pre-launch notifications regarding air- and sea-based cruise missiles, as well as ballistic missiles with a range or maximum altitude below 500 km.

Under the agreement proposed here, the India-Pakistan, China-Russia, and U.S.-Russia agreements would be combined, conformed, and expanded. First, all five member states would commit to pre-notify each other of any ballistic flight-test, regardless of range, at least 72 hours before the commencement of the launch window.²⁰ Second, similar notifications would be required for cruise missiles, a growing element of the nuclear-armed or nuclear-capable forces of all five states. Third, only one missile would be permitted to be launched per test window. This would assist in curtailing the scale of missile testing, including testing on a scale that could be misinterpreted as war preparations or warfighting. Multiple missile launches could simulate major nuclear or conventional strikes, including the emerging concern of conventional missile attacks upon nuclear forces, command and population centers, and other significant strategic targets. Fourth, in addition

to providing notification of the test area, states would also ban missile tests that overfly the land borders of fellow members, and prohibit trajectories and impact zones from entering areas within an agreed minimum distance from these boundaries. This distance could be initially extended to 100 km for both the flight path and landing zone, further reducing missile threat perceptions and the risks of misinterpretation of a launch.

Adopting this combined, harmonized, and strengthened agreement would have numerous positive impacts on nuclear confidence-building and risk-reduction efforts in South Asia and between major powers, as noted below.

The China Challenge

While the benefits of this proposal are readily apparent, the path toward its implementation will not be easy. China's reticence regarding joining South Asian nuclear risk-reduction and confidence-building initiatives constitutes the main obstacle to the conclusion of this agreement. Beijing's reluctance emanates from two sources. First, Chinese policymakers refuse to recognize India as a peer nuclear rival, and as such reject Indian entreaties for a meaningful strategic nuclear dialogue.²¹ Negotiating this new regional mechanism, and committing to mutual informational exchange, would implicitly require a shift in Chinese nuclear approaches toward India. This could prove a difficult pill to swallow for China, in publicly endowing new status upon a rival that it has long considered as its strategic inferior.

Second, China's concept of deterrence relies upon ambiguity regarding its force constitution and locations. Beijing has accordingly long resisted international pressures to adopt transparency measures beyond reiterations of its no-first-use nuclear doctrine. China refrains from outlining details of its nuclear force size and shape in multilateral dialogue with Nuclear Non-Proliferation Treaty nuclear-weapon states, a tendency also reflected in its bilateral engagements with the United States.²² This approach is motivated by Chinese concerns that offering more clarity in this domain would undermine its second-strike survivability, by possibly providing the necessary information to enable a successful first strike by an adversary. Moreover, Chinese participation in this new flight-test mechanism would necessitate offering rivals prior information regarding the time frame and geographic area of a missile test, enabling more accurate external assessments of ballistic and cruise missile capabilities and launch sites. The implications of current Chinese nuclear attitudes toward force transparency and India therefore serve as the principal barrier to this proposed creation of a five-state missile flight-test pre-notification regime.

Launching the System

Despite these obstacles, there are several reasons for implementing a unified flight-test regime. As the main obstacle to concluding such an agreement, China may soon

be obliged to reconsider its standoffish nuclear diplomacy. As Washington considers missile programs, such as conventional prompt global strike, and builds a closer strategic partnership with New Delhi, Beijing can either remain aloof or engage. Beijing's participation in this new accord could provide a clearer assessment of the missile programs of Washington and New Delhi, while potentially reducing the China-centric threat perceptions that propel U.S.-Indian strategic collaboration. Moreover, Beijing does not like to be an outlier. If the other four nations are inclined to engage in missile data-sharing, trust-building, and potential further nuclear collaboration, China might become motivated to join.

China's stance toward India has also been partly predicated upon the previously limited nuclear threat that India posed, especially regarding targets beyond Tibet and southwest China. The increasing range of Indian missiles — posing a greater threat to major Chinese population centers and military targets — could incentivize Chinese policymakers to accord greater value to receiving details of Indian nuclear and missile programs through this agreement. Indeed, the emerging concern of Indian missiles carrying multiple independently targetable re-entry vehicles could further prod China toward engaging India.²³

Implementing this agreement would deliver multiple benefits for South Asian nuclear security. Given the increasing pace of ballistic and cruise missile developments, pre-notification protocols could lessen the risk of destabilizing “surprises” of unanticipated missile activities, and reduce dangers of worst-case assessments — including preparations for a nuclear attack. Conversely, missile launches that have not been pre-notified could provide reason to adopt defensive measures. Restrictions on multiple missile launches within a single test window could be especially valuable.

The experience of negotiating such an agreement, and the regularization of information exchanges throughout periods of both peace and tension, could serve to build trust among participants. If sufficient confidence could be established by all participants in the value and integrity of notification data provided, other transparency, confidence-building, and nuclear risk-reduction measures might follow to deepen this regime.

Other side benefits could result from strengthening, expanding, and harmonizing the discrete India-Pakistan, U.S.-Russia, and Russia-China notification initiatives. The presently moribund U.S.-Russia Joint Data Exchange Center proposal, involving the establishment of a military hub to share real-time information regarding bilateral or third-party missile launches, could be rejuvenated as an addition to this multilateral notification system. The level of missile data provided could also be broadened. Members could begin to share telemetric data of flight-tests, and permit a limited annual number of test observations — even if only on a selective basis. Although not all of these states are members of the Hague Code of Conduct against Ballistic Missile Proliferation, they could still adopt its provision of providing annual lists of missile tests and details of nuclear and missile policies. Finally, the parties could agree to cap their annual number of flight-tests.

The proposed creation of a unified five-state missile flight-test pre-notification regime, while serving as an inventive and feasible new nuclear confidence-building and risk-reduction measure in its own right, could begin to generate the necessary conditions for more ambitious developments. As China, India, and Pakistan consider another decade of an increasingly complicated nuclear competition, negotiating such an agreement would be a worthy priority in their diplomatic engagements. This step could help unlock a longer-term process of more meaningful steps for sustainable war avoidance and regional stability.

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Modernize the South Asia Nuclear Facility “Non-Attack” Agreement

Toby Dalton

Introduction

On January 1, 2017, Indian and Pakistani diplomats exchanged official lists of the nuclear facilities located in their respective countries. According to news accounts at the time, this was the 26th such annual exchange of lists, pursuant to a 1988 bilateral confidence-building agreement not to attack each other’s nuclear installations.¹ The fact that this exchange has been implemented without interruption, during periods of both calm and military crisis, makes it the most enduring nuclear confidence-building measure (CBM) on record in South Asia. At the same time, the banality of this exchange suggests that the agreement has little practical contemporary meaning for peace and security in the region.

When the non-attack agreement was originally negotiated, both countries’ nuclear weapons enterprises were relatively small and secretive, and fears (in Pakistan, at least) of a surprise attack on nuclear facilities had been rampant for several years.² The agreement in theory helped allay concerns that nuclear facilities could be attacked purposefully, either by surprise or during a conflict, thus mitigating the potential humanitarian or environmental consequences that might result.

Over time, however, the agreement has proven to be merely symbolic, and its potential as a building block for enhanced confidence has remained limited. It was never backed by verification provisions, for example. During the period prior to 1998, in which neither state had openly declared its nuclear weapon status, it was widely assumed that both sides omitted nuclear-weapons-related facilities from their respective declarations.³ It is almost certainly the case today that neither side declares sites associated with nuclear weapons storage and operations, and perhaps other facilities as well. Any stabilizing influence the agreement contributed in the past has long since dissipated.⁴

The lost promise of this long-standing CBM could be revitalized by modernizing the agreement to make it more relevant to contemporary strategic circumstances in the region. I propose to expand the agreement in two ways that build on the existing recognition by both states that they have a shared interest in preventing an incident at a nuclear facility anywhere in the region that results in a radioactive release. First, the non-attack provision should be expanded to other targets, destruction of which could similarly result in environmental or humanitarian catastrophe. For the purposes of illustration and suggestion, I propose that the agreement cover large

dams, which are used for hydroelectric power generation and flood mitigation. The June 24 attack on the Salma dam in Afghanistan's Herat province, attributed to the Taliban, highlights the importance of protecting such critical infrastructure.⁵ Second, in recognition of the potential for non-state actors to do as much damage as state actors, the agreement should establish a mechanism to share information about terrorist threats to facilities covered by the agreement.

Augmenting the Non-Attack Agreement

Before examining the rationale for the proposed expansion of the non-attack agreement in greater depth, I will first address how the text could be amended to effectuate the two changes proposed above.

To expand the scope of the agreement to include large dams, three additions would be required. First, the title of the agreement would need to reflect the broader coverage, such that it could become, for instance, *The Agreement on the Prohibition of Attack Against Nuclear Facilities and Certain Critical Infrastructure*.

Second, paragraph 1(i) could be amended to reflect the expanded scope of the agreement. Paragraph 1(i) stipulates:

Each party shall refrain from undertaking, encouraging or participating in, directly or indirectly, any action aimed at causing the destruction of, or damage to, any nuclear installation or facility in the other country.

Amending this paragraph could be done by adding “and certain critical infrastructure” after “any nuclear installation or facility.”

Next, “and certain critical infrastructure” could be added in paragraph 1(ii), which contains definitions, and could be specified to mean large dams.⁶ It is not worth covering every single weir, barrage, or water project in both countries, most of which would not meet the definition of critical infrastructure. Rather, the point is to focus on water withholdings of sufficient size for which failure would result in environmental and/or humanitarian catastrophe.

Here, the definition provided by the International Commission on Large Dams (ICOLD) could be apt: any dam of a height greater than 15 meters and a withholding of more than 3 million cubic meters.⁷ According to the ICOLD registry, India has 5,102 such dams, while Pakistan has 163.⁸ Two of Pakistan's dams are among the largest in the world by volume for flood protection, while two in Pakistan and one in India are among the tallest in the world. Given the disparity between the number of large dams in the two states, they might agree to declare an equal subset, for example the 50 or 75 most important dams in terms of potential consequences of a failure. Because these lists are already provided by each state to the ICOLD, there should be no sensitivity in sharing them bilaterally as part of the annual facility list exchange.⁹

To enact an information-sharing provision that would help both states avoid the potential negative outcomes of an attack on nuclear facilities or large dams, a simple clause could be added to the end of paragraph 1(i), as follows: “... , and shall inform the other party in a timely manner regarding threats to such installations.”

These additions could revitalize the agreement, giving it far greater meaning than its current symbolic impact — as long as they were implemented in good faith. They could change in important ways how each side plans to prosecute a war against the other by removing from the target list those facilities whose destruction could cause long-lasting, unjust, and disproportionate potential harm to civilian populations. The proposed changes also would focus both states on a broader shared interest in preventing attacks on critical infrastructures that could have regional effects. Such an agreement could also set a precedent for adding other types of critical facilities to non-attack and threat-information-sharing pledges.

Nuclear facilities in both countries are relatively well protected (though not without issue or concern). Dams and other critical infrastructure are not as fortified, yet obviously are under threat. A 2012 U.S. Department of Homeland Security report, for example, describes two successful attacks on large dam facilities in India and two in Pakistan since 2004.¹⁰ All of these attacks involved militant groups; fortunately, none threatened the integrity of the dams. The report notes that attacks leading to dam “failure or disruption could result in deleterious results, including casualties, massive property damage, and other severe, long-term consequences, as well as significant impacts to other critical infrastructure sectors such as energy, transportation, and water.” In South Asia, it is likely that such attacks could also have significant impacts on agriculture, and cause substantial numbers of people to be internally displaced.

This revitalized agreement would also establish explicit acknowledgement of the growing threat from non-state actors to critical infrastructure. Implicitly, the existing agreement covers non-state threats, insofar as “indirect” threats by proxy actors might be “encouraged” by a state. It does not, however, deal with non-state threats that are not encouraged or directed by one of the states. Non-state actor threats to nuclear facilities motivated the establishment of the Global Initiative to Combat Nuclear Terrorism (in which both India and Pakistan participated) as well as the Nuclear Security Summits. Such threats are also a specific concern in South Asia, given the history of attacks in both countries by terrorist groups. Notwithstanding questions raised by New Delhi and Islamabad about the relationship of the other state to terrorist groups operating within or against each state, both states should have a strong desire to prevent terrorist attacks on nuclear facilities and other relevant critical infrastructure anywhere in the region.

The most direct way a state can help prevent terrorist attacks in another state, as well as to potentially mitigate perceptions of complicity if the attacks were to

originate from its territory, is to share information about threats. There is a spotty record of such sharing in South Asia, but it is not without precedent. The Composite Dialogue between Pakistan and India inaugurated in 2006 a “joint anti-terrorism mechanism” for such a purpose, and media reports periodically indicate the sharing of intelligence on terror threats, mostly against civilian targets.¹¹

To be effective in mitigating potential threats, of course, information must be conveyed in time to prevent an attack. As such, a standing exchange arrangement — such as the annual trading of nuclear facility lists — does not meet the timeliness requirement. Instead, the governments would need to find another suitable means for communicating such information, for example in the channel between national security advisors. The point here is to find a balance between making such information-sharing routine, while retaining perspective on the significance of the threats being discussed.

Hurdles to Modernization

Refreshing the non-attack agreement in the manner suggested here addresses one potential source of nuclear threat in South Asia. In this regard, it would build on international nuclear security commitments already made by both states. It would also extend the scope of commitments to protect civil society from threats to other kinds of critical infrastructure. But augmentation in this fashion faces several serious hurdles. Here I will focus on two, but there are likely others.

Foremost among these hurdles, refreshing the non-attack pledges requires surmounting the “trust deficit” — not only with respect to the broader political climate, but also because of how it has been implemented to date. It verges on accepted knowledge among the analytic community that follows strategic issues in South Asia that the nuclear facility lists exchanged each year between the two states are incomplete. Given that the lists are kept secret, it is impossible to state with certainty whether all of the facilities that meet the agreed definition are included. But Indian and Pakistani analysts consistently argue that the lists are partial, with some suggesting that each side has left off one uranium enrichment facility.¹² This issue surfaced anew in 2017, with charges by Pakistani officials that India is constructing a secret nuclear facility — the rumored plant at Challakere.¹³ Unless and until this plant actually contains nuclear material, India wouldn’t be obliged to include it in its annual list per the definition of the agreement. But this episode points to a more pertinent issue associated with the two sides’ security competition.

To improve the survivability of nuclear forces and therefore to strengthen deterrence, India and Pakistan have dispersed storage of nuclear warheads and delivery vehicles. Intelligence agencies in each country no doubt spend considerable effort monitoring suspected nuclear storage facilities in seeking to understand and forecast the nuclear operations of the other side. They would look for indicators

that would warn of a change in the levels of readiness or alert, and also tracking information to feed into the strategic forces operations and plans process. For this reason, the nuclear-weapons establishments in each country undoubtedly expend considerable effort to hide such information.

Notably, nuclear-weapons-storage facilities are not explicitly covered by the non-attack agreement. Presumably few if any such facilities existed when the agreement was negotiated in 1988, so there would have been little reason to include them explicitly in the definitions section of the agreement. Today, in each country there are most likely a handful of weapons depots and related operational locations that store the fissile material cores of nuclear weapons, mostly located on or near military bases. An expansive reading of paragraph 1(ii) of the non-attack agreement, which defines “nuclear installation or facility,” would argue for the inclusion of weapons storage facilities under the definition: “installations with fresh or irradiated nuclear fuel and materials in any form and establishments storing significant quantities of radioactive materials.” But it is unimaginable that the two countries would report the locations of nuclear weapons storage facilities to each other, given the operational requirement to conceal them. Indeed, such facilities are likely to be on the high-priority target lists of each country’s military planners.

In theory, the non-attack agreement creates advantages that accrue to the state that is more transparent, to the extent that declared facilities would not be attacked. But neither state is willing to take that risk with regard to facilities of operational significance. As a matter of practice, it is also highly likely that in the context of an escalating conflict, nuclear-weapons-related facilities would be specifically targeted regardless of whether they were subject to the agreement.

The inherent trust deficit that results in the incomplete lists therefore limits the agreement’s potential utility as a measure to mitigate all threats to nuclear facilities, at least insofar as threat information might only be shared about facilities on the list. Indeed, a state might possess information about a threat specific to a weapons-storage facility not on the list, but might not want to reveal its knowledge to the other state. At the same time, providing vague or generic threat information not specific to a facility limits its usefulness. Given contemporary security relations in South Asia, there may be little to be done to correct for this deficiency. Perhaps in the future India and Pakistan might develop sufficient trust to share complete nuclear facility lists — for example, if they were to engage in an arms control process.

Exchanging information on non-state actor threats to covered facilities also poses some specific challenges. First, there is the issue of sources and methods, which always hovers around intelligence-sharing. Intelligence agencies are biased toward collecting information, not disseminating it to other agencies in the same state, let alone to foreign adversaries. If the information involved focused on groups operating within the other state (i.e., Pakistan’s sharing information on the Indian Mujahidin or India’s sharing information on the Pakistani Taliban), questions about sources and methods would necessarily come into play. It seems more

plausible from a sources and methods point of view to share threat intelligence on groups that might cross borders. It is not clear from the public record how these questions have been handled in past instances, but clearly a calculus exists to support such sharing.

It is also worth raising the very real issues associated with state support for proxy groups that carry out attacks against the other state. There is a lengthy record of information and scholarship about Pakistan's support for such groups (mainly Laskhar-e-Taiba and Jaish-e-Muhammad) and complicity in prior attacks. There is less specific public information and analysis about parallel Indian support for groups carrying out attacks in Pakistan, namely the Pakistani Taliban and Baloch separatists, although Pakistanis certainly believe such Indian support to be a fact.¹⁴ If either state does have control of such groups, then presumably they could prevent attacks on facilities covered by the agreement. If affirmative control over these groups does not exist, however, then the question of information-sharing becomes apt, at least as a means of mitigating blame. But that doesn't obviate the question of how the party receiving the information might treat it. Indian officials, for example, might well discount information from Pakistan on the presumption that the information could not be trusted or was offered as an attempt to avoid blame for what was in actuality a sponsored attack.

Avoiding Civilian Catastrophe

Notwithstanding these hurdles, both states could well decide that the risks and challenges are outweighed by the potential benefits of modernizing the non-attack agreement.

Today, India and Pakistan both expend significant diplomatic effort in search of international legitimacy as responsible possessors of nuclear weapons. They both seek entry into the exclusive Nuclear Suppliers Group. They participated in the Nuclear Security Summit process. And they are engaged in nuclear-reactor construction projects involving foreign suppliers. As such, each state has a strong interest in preventing nuclear incidents at its own — and, arguably, at the other's — nuclear facilities.

The potential environmental and humanitarian consequences of an attack on a nuclear facility or dam could range from negligible to severe. Existing modeling of radiation effects from an exchange of nuclear weapons in South Asia provides some sense of the potential magnitude of such an event, albeit with a very different set of assumptions.¹⁵ But an accident at a nuclear reactor could also result in substantially harmful levels of radiation released into the atmosphere. Depending on the location of the event and prevailing winds, such a release could have far-reaching effects on population centers and agriculture belts in both countries. Given the population density in South Asia and the governance challenge of managing the consequences of a radiation release, the potential that a nuclear accident could

result in humanitarian catastrophe is significant. An attack on a large dam also could produce severe consequences, albeit without radiation effects.

An attack on a nuclear facility or a large dam could also precipitate a major security crisis. There is a propensity for officials and politicians in both India and Pakistan to blame militant groups based in or supported by the other state for any attacks that occur on its territory.¹⁶ It is thus reasonable to predict that an attack on a Pakistani nuclear facility or other critical infrastructure carried out by the Pakistani Taliban or Baloch militants would be blamed on purported Indian support for such groups, just as it would be reasonable to expect that responsibility for an attack on Indian critical infrastructure, attributed to Lashkar-e-Taiba or Jaish-e-Muhammad, would be blamed on Pakistan. Whether or not such an attack was actually supported or directed by the opposing state, it is reasonable to expect that the victim might conclude that it was, either to shift blame or because of analytic bias. The heated rhetoric and demands for retribution that would follow such an attack — some politicians and hawkish news commentators would no doubt term it an act of war — could instantly plunge both states into a political-military crisis with unknown prospects for escalation.¹⁷

In addition, as was seen following the accident at the Fukushima-Daichi nuclear power station in Japan, an incident at a nuclear facility in either India or Pakistan could seriously disrupt and potentially derail nuclear energy production in both states. The blow to the international and domestic prestige accorded nuclear power would be severe, causing foreign technology suppliers and their financiers to question whether the potential liability and reputational damage was worth the risk of investment in projects in the region. (This could especially impact China, since Beijing is betting that its nuclear-reactor construction projects in Pakistan will help it develop a larger export market.) Such an event would also cause damage to domestic support for nuclear power, especially given the propensity for local opposition, such as that surrounding reactor projects in Karachi and Kundankulam. The diminution or death of nuclear energy production also would have tertiary effects on economic development and climate-change-mitigation plans, with both states inevitably having to invest greater resources in more carbon-intensive sources of energy, with all the attendant air pollution implications.

Officials in both countries presumably understand these and other potential consequences of a nuclear incident at one of their facilities, which should motivate their nuclear security practices. Modernizing the agreement would lend credence to the rhetorical support both countries have placed on strengthening nuclear security. For example, both heads of government attended the Nuclear Security Summits convened biennially from 2010 to 2016; each government constructed a “center of excellence” to provide training on nuclear security and related topics; and each engages the International Atomic Energy Agency in a range of nuclear security training and review activities.

However, in the course of strengthening nuclear security practices, India and Pakistan have eschewed formal bilateral cooperation or exchanges. Officials from both countries dismiss proposals for such cooperation as too sensitive or politically inexpedient. Ironically, both often raise concerns about the nuclear security practices of the other to question the “responsible nuclear state” bona fides for purposes of international point-scoring. Understandably and legitimately, given long-standing security tensions in South Asia, each side has concerns that bilateral nuclear security cooperation might inadvertently reveal vulnerabilities. The lack of trust preventing such cooperation is unlikely to be redressed any time soon. However, focusing on mitigating threats rather than sharing nuclear security practices would avoid this sensitivity.

Conclusion

Avoiding nuclear war is the paramount responsibility of states with nuclear weapons, followed closely by avoiding other nuclear incidents that could lead to war or other human or environmental catastrophe. Nuclear weapons are now a defining feature of the strategic landscape in South Asia, and will be for the foreseeable future. It is therefore incumbent on India and Pakistan to take all necessary steps, both in their national practices and in their bilateral relations, to mitigate threats to nuclear facilities. This proposal — to bring a confidence-building measure negotiated before the advent of nuclear weapons into the post-nuclear-weapons context — would be a useful step toward meeting this responsibility.

Inherent in this responsibility is a broader principle to mitigate serious threats to civilian populations. Given the shared geography in South Asia, this is not merely an “other-regarding” principle, but recognizes that civilian catastrophes could easily transcend political boundaries. Expanding the scope of the agreement to cover not just nuclear facilities but other types of infrastructure, and also to recognize non-state threats to that infrastructure, would similarly commit India and Pakistan to useful principles of bilateral conduct that are good for the region as a whole.

One could also hope — recognizing that hope is not a good basis for policy — that modernizing the non-attack agreement as suggested here might support habits that would spill over into other arenas. Narrow sharing of intelligence on threats to covered facilities could yield a more fruitful anti-terrorism dialogue. It could also provoke broader discussion on best practices for protection of critical infrastructure, and perhaps even lead to cooperation along these lines. These would be small but useful steps pointing the way toward an off ramp from intensified nuclear competition. Of course, such steps in isolation are unlikely to end the India-Pakistan security competition, or even to prevent future terror attacks. But the intrinsic value of cooperation to mitigate threats to critical infrastructure — and civil society more broadly — makes them worth pursuing all the same.

Endnotes

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16. This is an observation of the national discourse in India and Pakistan, not an analytic judgment on the veracity of those claims and the potential equivalence implied.
17. If the attack involved a facility storing nuclear weapons and/or if the states were already in a period of heightened tension, this would be even more the case, for it could be (mis)interpreted as a preemptive attack.



Part 2

**SUBSCRIBE TO
NUCLEAR RESTRAINT**

Back to Basics: Pledge Nuclear Restraint

Manpreet Sethi

Introduction

China has been a nuclear-weapon state for slightly more than five decades. Beijing has approached nuclear deterrence from a minimalist perspective, eschewing large stockpiles and launch-on-warning or launch-under-attack postures even when faced with two antagonistic superpowers. Embracing no-first-use and emphasizing the political nature of the weapon, China has maintained a low nuclear profile and a relaxed pace of modernization. Over the last decade, however, Beijing's nuclear modernization programs have picked up in speed and variety, including operationalization of the new *Jin*-class nuclear-powered submarines; deployment of multiple independently targetable re-entry vehicles (MIRVs); and perhaps maneuverable re-entry warheads atop its missiles; dual-use cruise missiles; research and development of hypersonic missiles; and the fast-expanding use of space capabilities to improve intelligence, surveillance, and reconnaissance (ISR). How far these developments will take China from its long-articulated minimalist deterrence strategy is unclear.

India is about to complete two decades as a nuclear armed state. This period has been spent operationalizing its nuclear deterrent: building a modest stockpile of an estimated 110-120 warheads,¹ testing and inducting missiles of variable ranges, and moving toward a tentative triad capability with its first nuclear-powered submarine, the *INS Arihant*. These activities are based on a nuclear doctrine that India's National Security Advisory Board (NSAB) drafted in August 1999, and which was subsequently endorsed, retaining most of its features, by the Indian government in 2003. The doctrine made it clear that India would develop "sufficient, survivable, and operationally prepared nuclear forces, a robust command and control system, effective intelligence, and early warning capabilities"² to ensure "maximum credibility, survivability."³ Survivability was emphasised through a "combination of multiple redundant systems, mobility, dispersion and deception."⁴ Under this plan, India has built a credible arsenal and a set of requisite capabilities to satisfy its concept of credible minimum deterrence (CMD).

Pakistan, meanwhile, appears to have chosen a more ambitious nuclear posture called full spectrum deterrence. Explicitly tasked with the purpose of deterring a conventional war with India, Pakistan's nuclear posture appears to place importance on nuclear warhead numbers⁵ and counterforce capabilities, including short-range systems like the *Nasr* to be used on the battlefield. It has also announced a sea-based deployment of nuclear-tipped missiles on surface vessels and/or diesel-electric-powered submarines, ostensibly to enhance survivability.

Faced with growing strategic capabilities across its borders to the east and west, India has two choices. It could choose to compete with Chinese and Pakistani strategic modernization programs, particularly with respect to developing matching counterforce capabilities, or it could reaffirm its nuclear posture of CMD and resist being sucked into the counterforce competition. Indeed, the most stabilizing and least expensive choice for New Delhi, and for the region, would be to avoid a nuclear competition in building counterforce capabilities. Is this possible? This essay recommends that India take the lead in pledging nuclear restraint based on a recognition of the basics of nuclear deterrence, and challenge China and Pakistan to follow suit.

The Logic of Nuclear Sufficiency

India can wield substantial influence to help stabilize a dangerous triangular competition by rejecting a nuclear warfighting posture and refusing to be drawn into a competition with China and Pakistan to build counterforce capabilities. The three nuclear-armed states have, or are close to having, their own versions of secure second-strike capabilities that should suffice for credible deterrence. If the logic of sufficiency were to apply, the three should refrain from moving further toward capabilities that could only foster deterrence instability. The United States and the Soviet Union crossed similar thresholds in their Cold War competition, and the results should be instructive. It is worth recalling that David Lilienthal, chairman of the U.S. Atomic Energy Commission, resigned from this position in 1949 when the United States decided to develop the hydrogen bomb for nuclear warfighting. Criticizing the competition for destructive power with the Soviet Union, he commented, “Where this will lead us is difficult to see. We keep saying, ‘we have no other course.’ What we should be saying is ‘we are not bright enough to see any other course.’”⁶

Will China, India, and Pakistan be “bright enough” to choose a prudent course, or will they move toward inducting and modernizing capabilities that would push them into the next phase of nuclear competition? There is still time to choose wisely, but the warning signs are clear. Rawalpindi’s interest in building nuclear warfighting capabilities is evident, given the exaggerated role it accords nuclear weapons and the manner in which it links them to its conventional warfighting strategy. If India joins in this competition, it may lead to never-ending stockpile growth. While some in India have opined that this competition could be one way of bringing Pakistan to financial ruin, the exercise would, however, increase risks associated with growing stockpiles of fissile material and warheads in a politically unstable nation. In waiting for Pakistan to exhaust itself, which may prove to be a long wait given foreign financial assistance from powerful allies, India’s own strategic and financial interests would be harmed as well.

On India's eastern front, Beijing's strategic modernization is driven by growing American conventional and nuclear capabilities. It is unclear whether China will stop at building "sufficiently" secure retaliatory capabilities or march on toward nuclear warfighting requirements. Some Chinese scholars⁷ are wary of their country falling under the spell of the American and Russian maximalist nuclear discourse. If influenced by these tendencies, China may veer from its long-held deterrence posture of self-sufficiency and minimalism. Beijing has the resources to expend on new buildup. India's growing economy could also be utilized in this way, but at the expense of critical developmental goals.

The good news for India, however, is that it is not necessary to go down this path — if one remembers the basics of nuclear weapons and deterrence. Indeed, India has the best chance of influencing Chinese and Pakistani force postures if it were to reaffirm its commitment to these basics and firmly reject the concept of nuclear warfighting and the capabilities that go with it. This is the time for India to make conscious, informed choices on the utility and disutility of nuclear weapons, and appeal to others to recognize the logic of nuclear sufficiency.

The Proposal

I propose that New Delhi publicly pledge that it intends to avoid open-ended growth in warhead numbers and the acquisition of nuclear warfighting capabilities.⁸ I also propose that New Delhi call on its nuclear-armed neighbors to make similar pledges, whether individually, bilaterally, or trilaterally. Such pledges would be akin to the one made by presidents Ronald Reagan and Mikhail Gorbachev in 1987 that a nuclear war cannot be won and must not be fought. In the southern Asian context, such proclamations would demystify deterrence requirements and stabilize the capability conundrum. These pledges would recall, acknowledge, and accept certain immutable attributes of nuclear weapons that allow for credible deterrence at reasonably low and limited levels of capability. They would reaffirm the following three basic propositions.

First, nuclear weapons are distinct from conventional weapons. The instantaneous release of large amounts of energy in the form of blast and thermal heat, ionizing radiation, and long-term radiation from nuclear fallout are natural attributes of nuclear detonations. The empirical data from the destruction wrought on Hiroshima and Nagasaki by, respectively, a 15-kt-yield and a 20-kt-yield nuclear warhead is widely available. Today's warheads are magnitudes of order higher. Lower yields have also been experimented with as one way of reducing the deleterious effects of nuclear explosions. But, a report prepared by the Federation of American Scientists in 2001 concluded that even a ground burst of a nuclear yield as small as 1 percent of the Hiroshima weapon would "simply blow out a massive crater of radioactive dirt, which rains down on the local region with especially intense and deadly fallout."⁹ Since these weapons are so markedly different from conventional weapons, the numbers required to cause significant damage are quite small. Parity

is not necessary for nuclear deterrence, and even a “tactical” use of such a weapon would have grave strategic impacts.

The second reaffirmation of the proposed pledge would be that nuclear weapons are suitable only for deterrence, not warfighting. The use of Hiroshima-sized and higher-yield weapons would cause a humanitarian disaster. The use of low-yield (even sub-kiloton-yield) weapons would not only break the taboo against nuclear weapons use, but also invite uncontrolled escalation. The United States and the Soviet Union accumulated large-scale stockpiles of varying yields in the hope of gaining the advantage in nuclear exchanges. Yet neither country was inclined to test this hypothesis when faced with testing times. Rather, many individually and jointly conducted war games have shown that the concept of limited nuclear war with “surgically precise accuracy” is pure folly. The temptation to build capabilities that seem to hold the promise of achieving success in a limited nuclear war by confining attacks to counterforce targets can only be illusory, downright dangerous, and totally unnecessary.

The third reaffirmation that underlies my proposed pledge is to rule out preemptive nuclear attacks as a way of “winning” a war. Such a belief amounts to wishful thinking when the adversary has a secure second-strike capability. If survivability is intelligently maximized through diverse methods, no amount of counterforce capability can guarantee a comprehensive disarmament or decapitating strike that would prevent nuclear retaliation. In addition, retaliatory strikes that target cities with population densities as high as 20,000 people per square kilometer, and where most of the population lives in flammable and exposed shanties, would negate any benefits of the preemptive use of nuclear weapons.

A recognition of these basics should make it possible for New Delhi to vocalize the proposed pledge and appeal to its nuclear-armed neighbors to join in. Pledging restraint on counterforce capabilities could rationalize deterrence requirements and stabilize competition. Deterrence based on the ability to cause unacceptable damage is possible with fairly low warhead numbers atop even low-accuracy delivery vehicles. The pursuit of nuclear warfighting capabilities through the greater accuracy of nuclear-tipped missiles would prove a worthless exercise since disarming strikes could still not be guaranteed against longer-range, hard-to-target mobile missiles. Focusing on enhanced survivability is, therefore, a prerequisite for this proposal. By following the nuclear basics of survivable second-strike capabilities and credible minimum deterrence, India, China, and Pakistan can avoid a wasteful, dangerous competition in counterforce capabilities.

Obstacles

My common-sense approach may not be an easy proposition for India to offer and for others to accept. As Francis Gavin wrote, during the Cold War nuclear weapons in “their lethality, their numbers, their deployments — drove the politics,

not the other way around. The interaction could produce outcomes — arms races, dangerous crises, and even inadvertent war — separate from the political sources of the rivalry.”¹⁰ It is not difficult to imagine that the three nuclear-armed states of southern Asia could fall into the same trap. Avoiding this trap appears particularly difficult for five reasons.

First, a pro-nuclear cacophony is threatening to drown out the voices of those advocating minimalism and a narrow role for nuclear weapons. The ongoing modernization of nuclear arsenals in all the P-5 countries, the replacement of aging arsenals, and a new swagger and brinkmanship in nuclear statements and strategies — not just in states like North Korea and Pakistan, but even in Russia and the United States — heighten insecurities and propel increases in strategic capabilities. Instead of downplaying their nuclear prowess, countries appear to be showcasing it. The general atmospherics of nuclear showmanship generates disquiet — the complete opposite of the “nuclear quiescence” that Thomas Schelling wrote about in 2009.¹¹ To hold on to the philosophy of minimum deterrence in an age of rising nuclear nationalism will not be easy.

The second factor challenging nuclear minimalists is the rapid development of advanced conventional weapons and disruptive cyber capabilities. Nuclear warhead requirements may grow as a result, especially where nations have relatively small nuclear holdings. The blurring of lines between nuclear and conventional weaponry will pose a huge challenge. While it is in the interest of international security that nations maintain a clear distinction between the two realms, the predominant trend appears to favor ambiguity. Nations, therefore, are more likely to settle in favor of hedging bets rather than appear to be settling for less. “Staying ahead” and “catching up” are games likely to appeal to more players than being satisfied with the limited requirements of nuclear deterrence.

Third, in the absence of any meaningful arms control or strategic stability talks among any of the nuclear armed states today, the inclination to make worst-case assumptions about an adversary’s capabilities and intentions will be high. For example, the United States and Russia are not discussing anything beyond the New Strategic Arms Reduction Treaty, which is due to expire in 2021. Multilateral treaties are also under a cloud. Washington and Beijing have had limited success with their strategic stability talks and nuclear risk-reduction measures. Likewise, the P-5 talks to restore confidence in the Nuclear Non-Proliferation Treaty (NPT) have not evolved into anything meaningful. India and China do not have a dialogue on nuclear-weapon-related matters. India and Pakistan agreed to their last nuclear risk-reduction measure in 2007, which has received two five-year extensions.

Fourth, technological advances will tempt nations to pursue newer capabilities. As ISR capabilities improve, so will counterforce possibilities. MIRVs and ballistic missile defense (BMD) systems beckon. Military research and development complexes will promise new advances. Only a firm political leader wedded to a common-sense approach to nuclear deterrence can stand up to these challenges

and deal with domestic constituencies that feed on worst-case scenarios. Such leaders will not be easy to find.

Finally, India's ability to make such a pledge will be challenged by regional realities. The China-Pakistan nuclear and missile cooperation, which has long been common knowledge, is now manifest as close-knit, strategic collusion exemplified by the increasing Chinese presence in contested territories between Pakistan and India. Beijing's growing assertiveness and insensitivity to Indian concerns could embolden Pakistan further, including support for terrorism against India. It will be difficult to wall off the resultant increase in India's threat perceptions from Chinese and Pakistani nuclear modernization programs. No political leader will enjoy being called weak and unresponsive to national security requirements.

An added concern would be if China and/or Pakistan were to nominally join India in support of the pledge, but disregard it in practice. While the basics of nuclear deterrence would remain the same, perceptions in India of having been cheated would add weight to the voices arguing in favor of building a higher order of nuclear capabilities. To hold on to minimalism in such a situation would become even more difficult.

Overcoming Hurdles

Despite these hurdles, there are still good reasons for India to make a pledge of restraint and call upon China and Pakistan to follow suit. These reaffirmations are entirely consistent with India's nuclear posture that nuclear weapons are for deterrence rather than warfighting. Of course, India must remain aware of the requirements of survivability, particularly in the event of more effective BMD systems in the region. Even then, however, there would still be no need to engage in a competition on counterforce capabilities. Remaining steadfast to the principles India holds dear and exuding confidence in them could buttress deterrence.

A diplomatic appeal to its nuclear-armed neighbors to pledge similar restraint would only elucidate New Delhi's long-standing nuclear principles at a time when a senseless and dangerous competition over nuclear warfighting capabilities looms. If China and/or Pakistan were to follow India's lead, the triangular nuclear competition could decelerate. If they did not — whether they took the pledge or not — India would still safeguard its security by assuring its own second-strike capabilities. New Delhi must remain confident that its common-sense approach to nuclear weapons is right and prudent.

The initiative proposed here is simple, just as the Reagan-Gorbachev pledge once seemed simplistic. But this straightforward initiative could have important consequences for the future of the region. Superpowers made many mistakes during the Cold War in their experimentation with deterrence strategies. The southern Asian nuclear powers have the luxury of learning from them. One lesson that stands out is the need to go back to basics every time a new role for nuclear

weapons or a new capability seemingly presents itself. As long as India maintains survivable nuclear weapons for retaliation while rejecting a nuclear warfighting strategy, it will remain on the right track.

In order to drive home an appreciation of the basics, New Delhi could promote studies and use media that graphically depict the damaging potential of nuclear weapons. Once the full range of physical, economic, social, political, health, environmental, and psychological effects of nuclear weapons are highlighted, limiting weapon requirements would be better understood. The objective of this proposal is not to make a case for disarmament — although that could be a welcome collateral benefit — but to focus decision-makers on the human, environmental, and societal costs of nuclear warfighting to rationalize their nuclear forces.

Hardware requirements of nuclear deterrence are fairly low and limited given that even a few weapons used in densely populated areas would cause damage that no sane leadership could find acceptable. However, the leadership of these three countries, and their respective societies, must be made to understand the details of what this damage would entail. It is one thing to vaguely know that the effects of nuclear use would be horrific, but quite another to be confronted with the extent of actual damage in real places with real statistics. Exposing leaders, and societies, to such facts through reports, documentaries, or movies would bring real issues to the fore. It may be recalled that during the Cold War, American literature and media abounded with such works, including Hollywood movies that visualised life “the day after.” In southern Asia, no such works have been created. Efforts of this nature undertaken individually or jointly by the three nations would clearly delineate nuclear requirements, foster understanding that large arsenals are unnecessary, and clarify that some kinds of capabilities, such as missile defence or counterforce accuracies, add to security dilemmas rather than help resolve them.

Historical experience related to nuclear weapons reveals that nations often succumb to open-ended targeting requirements. It almost became a compulsion for adversaries to follow each other’s leads. This need not be the case. Nations can make choices based on a rational understanding of the fundamentals, nature, and role of nuclear weapons. If national leaders have the wisdom and strength to recognize the basics, they can find ways to take off ramps from the offense-defense spiral that only feeds on each nation’s insecurities.

India has always prided itself on its unique, non-Western, and minimalist approach rooted in the basic understanding that nuclear weapons are political instruments designed for deterrence. India’s challenge is to hold to these concepts now that credible deterrence is within reach and even while India’s nuclear-armed neighbors appear to be choosing a different path. By pledging to reaffirm the basics and eschewing competition in nuclear warfighting capabilities, India could avoid wasteful expenditure and influence the decisions of other nuclear powers. It is an attempt worth making.

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Pursue a Triangular MIRV Restraint Regime in Southern Asia

Sitakanta Mishra

Introduction

The advent of multiple independently targetable re-entry vehicles (MIRVs) in southern Asia can be quite consequential in terms of the unfolding triangular nuclear competition involving China, India, and Pakistan. The three nuclear-armed neighbors have demonstrated their MIRV capabilities, with China as the earliest entrant, having reportedly placed MIRVs on its DF-series missiles.¹ In the decades ahead, China's MIRV programs would be sure to mature. In the absence of confidence-building and nuclear risk-reduction measures (NRRMs), the advent of MIRVs will exacerbate concerns for the respective national security policies of all three countries and for the regional strategic balance. Although the presence of MIRVs in southern Asia will not be as pernicious as it was during the Cold War,² it will have ripple effects in threat perception, doctrine, and the perceived need for countermeasures.³ The complicated nuclear interactions among China, India, and Pakistan are about to become even more complex.

As was evident during the Cold War, MIRVs undermine strategic stability and invite an intensified nuclear arms race. President Richard Nixon's National Security Advisor Henry Kissinger opposed a ban on MIRVs during the first Strategic Arms Limitation Talks. He came to regret this soon afterward, when he said, "I wish I had thought through the implications of a MIRVed world more thoughtfully in 1969 and 1970 than I did."⁴ Reiterating his stand during the debate over the second Strategic Arms Limitation Treaty in testimony before the Senate Foreign Relations Committee, he said: "In retrospect, I think if one could have avoided the development of MIRVs, which means also the testing of MIRVs by the Soviets, we would both be better off. What conclusion then I would have come to I don't know."⁵ With the passage of time, Kissinger became more conclusive. Writing in *Time* magazine in 1983, he opined that "there can be no doubt that the age of MIRVs has doomed the SALT approach."⁶

If the Cold War consequences of MIRVing are any guide, the negative fallout of deploying MIRVs will outweigh justifiable gains in southern Asia, as well. These negative repercussions will include increased nuclear-weapon stockpiles, increased counterforce capabilities, and a greater orientation toward nuclear-warfighting strategies. Limiting these capabilities is in the interest of all three countries. This essay suggests a triangular mechanism to implement a ceiling on the maximum number of MIRVs per missile, and perhaps on aggregate totals as well. The sections

that follow will elaborate on this proposal and the reasons behind it, discuss hurdles against its implementation, and the reasons why a MIRV restraint regime is nonetheless in the interests of China, India, and Pakistan.

Imperatives and Challenges

Chinese MIRV deployments have reportedly already begun in southern Asia. If India and Pakistan follow China's lead, the number of warheads in each country is bound to increase even more in the vicious circle of a "security trilemma."⁷ The more MIRVs proliferate, the more prevailing credible minimum deterrence postures in the region are likely to evolve into nuclear-warfighting doctrines, raising reciprocal fears of preemptive strikes. MIRVed missiles carrying a large number of warheads are tempting targets for adversaries, posing a "use it or lose it" impulse in a serious crisis.

Moreover, a serious MIRV competition would stimulate expenditure, not just on additional warheads but also on more redundant means of delivering nuclear weapons to address perceived vulnerabilities. This would be a waste of money that could be used in more constructive projects. Additionally, the more countries deploy MIRVs on land-based missiles, the more they are likely to rely on sea-based deterrent systems, just as was the case during the Cold War.⁸ But sea-based nuclear deterrents pose difficulties with command and control, and could be liable to accidents and unauthorized use.

Growing, unabated stockpiles of MIRVed warheads suggesting a first-use posture will be in no one's strategic interest in southern Asia. As during the Cold War, more MIRVs are not synonymous with more security.⁹ The open-ended pursuit of MIRVs is likely to impact nuclear doctrines in southern Asia more than anything else. It could prompt China and India to revisit their nuclear doctrines and possibly abandon their no-first-use postures. Pakistan is already pursuing counterforce capabilities and has a declared first-use posture. Three first-use postures backed up by MIRV capabilities would have dangerous implications for deterrence stability in southern Asia. These dilemmas can be alleviated through a MIRV restraint regime. Despite the difficulties involved, China, India, and Pakistan should have an interest in developing common understandings on MIRV limitations to forestall even more of a nuclear arms race.

What happens in South Asia cannot be divorced from nuclear-related developments elsewhere. An intensified nuclear competition in southern Asia involving MIRVs could also have spillover effects in East Asia and Northeast Asia, and vice versa. As Michael Krepon et al., have noted, "nuclear enclaves, wherever located, are inherently sensitive to advances by their neighbors, and all have powerful backing."¹⁰ Beijing has high stakes in the geopolitics of the Asia-Pacific region; an offense-defense competition in southern Asia could well be transposed elsewhere. Beijing could expedite the development of hypersonic glide vehicles and MIRVs in

response to Indian deployments of ballistic missile defense (BMD) or to South Korea's deployment of the U.S. Terminal High Altitude Area Defense system.¹¹ An intensified strategic competition around China's periphery could have profound ripple effects on Chinese nuclear doctrine and on the calculations of Japan and South Korea, as well as India. Therefore, much is riding on a MIRVed restraint regime in Asia as well as on de-linking, as much as possible, southern Asian nuclear complexities from those unfolding elsewhere in the Asian Pacific region.

A MIRV Restraint Regime

A binding, trilateral arms control treaty regime governing MIRVs in southern Asia is most unlikely. Therefore, as Michael Krepon has noted, if MIRVs are to be limited "for reasons of national interest, it will be by tacit understandings."¹² This could be done through bilateral and trilateral political agreements backed up by the ability to confirm agreed limitations on MIRVs. The starting point for a customized MIRV restraint regime in southern Asia would be a common understanding among the parties that such a regime would reinforce but not undermine the operation of nuclear deterrence. Restraints would serve strategic stability by undercutting first-strike scenarios and reducing the possibility of accidental, inadvertent, or catalytic war.

As in U.S.-Soviet MIRV limitations, agreement could be sought on the maximum number of MIRVs flight-tested on different types of missiles, which would then serve as the maximum they would be allowed to carry. No flight-tests of missiles carrying MIRVs would be allowed to carry more than the maximum number that is mutually agreed upon. The superpowers called these mechanisms "counting rules." Agreements might be reached on the number of MIRVs flight-tested and the number of deployed MIRVed-capable missiles. If possible, China, India, and Pakistan could also agree to the total number of MIRVs they would be allowed. Aggregate totals would be based on the assumption that every missile of each type would be considered to carry the maximum number of MIRVs that were agreed upon. For example, if agreement could be reached that a certain type of missile could only be flight-tested carrying, say, two MIRVs, then all missiles of this type that had been inducted would be assumed to carry this number.

In addition, to strengthen mutual trust, all three countries could adopt the transparency measure of providing advance notification of MIRVed flight-tests. This would not be difficult for India and Pakistan, as they already have the Pre-Notification of Flight Testing of Ballistic Missiles Agreement in place (since 2005). Such a regime could be further broadened to include China and the MIRV component.

Lastly, to ascertain the informal limits (subject to their mutual agreement, of course), mutually acceptable technical means could be utilized to monitor whether certain types of MIRVed-capable missiles — such as China's DF series, India's Agni

missiles, and Pakistan's Shaheen and Ababil missiles — are not flight-tested with more than the agreed number of warheads. The United States and the Soviet Union/Russia were able to monitor each other's missile flight-tests in this way. They could be consulted if China, India, or Pakistan were unable to do this by themselves and sought assistance.

Track II “dialogues” might be convened to give impetus to such an initiative. If there are favorable signs, a troika mechanism or a high-level working group consisting of diplomats, defense officials, and national security advisers of the respective countries could be formed to consider MIRV limitations.

Given New Delhi's bonhomie with Washington in recent years, and given Beijing's concerns over U.S. intentions, a quadrilateral dialogue forum for building consensus on a MIRV restraint regime, utilizing U.S. experiences, could also be handy.

A MIRV restraint regime would be important, but it would not resolve the competing strategic ambitions of China, the United States, and India in the Asia-Pacific region. If a MIRV restraint regime is somehow able to be agreed upon, it would be understood that these states, as well as Pakistan, would not agree to forgoing other cutting-edge technologies, or otherwise modernizing their deterrent forces.

Hurdles

Given their asymmetric levels of strategic capabilities, it is hard to envision that China, India, and Pakistan would be willing to agree to equal numerical caps on MIRVed warheads. China is unlikely to agree to parity with India, and India is unlikely to agree to parity with Pakistan. They would also have great difficulty agreeing on any proportionate ratio that they would be obliged to maintain. China would also be sensitive to U.S. MIRV, counterforce and missile defense capabilities. Even so, counting rules on MIRVs for different types of missiles might be agreeable, and could have great benefit.

Another hurdle is the deployment of BMD by China and India.¹³ If the Cold War experience is a guide, deployments of BMD — even missile-defense systems that are of poor effectiveness — would likely increase requirements for more MIRVs. However, BMD programs are largely constrained by costs, technological challenges, and the absence of sponsorship with the armed forces. Beijing and New Delhi might decide not to massively deploy costly missile defenses of very limited effectiveness. China, which is wary of U.S. nuclear capabilities, might wish to avoid a parallel MIRV competition with India — especially an India that sees “Chinese MIRVs as compounding and complicating a simplistic Indian deterrence posture.”¹⁴

In addition, Beijing might see value in crafting confidence-building measures with India to avoid excessive costs of growing fleets of nuclear-powered, ballistic-missile-carrying submarines heavily loaded with MIRVed submarine-launched

ballistic missiles (SLBMs).¹⁵ As both countries have not been inclined to adopt nuclear-warfighting capabilities, they might be willing to accept limits on MIRVed SLBMs.

Another hurdle is that there is no precedent available for MIRV limitations in southern Asia. At the most basic level, there are not even constructive dialogues on nuclear issues between India and China, and between India and Pakistan. Plus, the prior effort to limit MIRVs in the Strategic Arms Limitation Talks between Washington and Moscow was initially unsuccessful, and then extremely loose, stoking concerns about nuclear-warfighting intentions.

Conclusion

A MIRV restraint regime for southern Asia may currently seem inconceivable. Even so, the effort is worth exploring. China, India, and Pakistan are gearing up for an intensified strategic competition, of which MIRVs are an important part. As Michael Krepon writes, “One of the responsibilities of states that possess nuclear weapons is to pursue nuclear risk reduction measures with nuclear-armed states, especially those with which they have previously fought wars. By this yardstick, China, India, and Pakistan can be found wanting.”¹⁶

Above all, China, India, and Pakistan would be wise to resist the “lure and pitfalls” of excessive numbers of MIRVs and counterforce targeting.¹⁷ A trilateral approach that seeks tacit agreements and political commitments to constrain MIRVs is worth considering. China, India and Pakistan could craft an institutionalized mechanism or a dialogue forum to explore possibilities. The existing strategic commonalities, complex though they may be among the three nuclear-armed neighbors, can nevertheless act as a starting point for future cooperation.

The proposed trilateral MIRV restraint regime would be unlikely to prevent qualitative improvement altogether, but could have the positive effect of slowing down the rate at which the MIRV race is unfolding in southern Asia. Undoubtedly, there will be enormous obstacles to carving out such an initiative, but implementing this restraint could set a precedent, heralding an era of substantive Sino-Indo-Pak trilateral strategic engagement.

If Beijing means what it says — that it seeks Indian inclusion in its multilateral trade and infrastructure development plans — cooperative steps toward such a MIRV restraint regime could pave the way for further regional cooperation. As for New Delhi, a MIRV restraint regime could help keep its northeastern theater relaxed, especially when it is concerned about the strategic nexus between Pakistan and China. For Pakistan, agreement on MIRVs would test its long advocacy of a South Asian strategic restraint regime. The role of the United States would be crucial in promoting and facilitating a MIRV restraint regime, through both formal and informal channels, subject to the comfort levels of all parties.

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Consider a Trilateral Asian ABM Treaty

Happymon Jacob

Introduction

At the height of the Cold War, the Anti-Ballistic Missile (ABM) Treaty was signed between two superpower rivals based on a counterintuitive logic: that the best way to ensure stability is to keep oneself vulnerable to a nuclear strike by the adversary. In other words, either side's search for invulnerability would prompt a dangerous arms race, creating a security dilemma in which both countries would end up less secure. The ABM treaty signed in 1972, which continued to be in force until 2002 when the George W. Bush administration unilaterally withdrew from it, not only ensured that a certain amount of checks and balances were brought to bear on the superpower strategic arms race, but also created a great deal of strategic stability between the United States and the Soviet Union. Despite several inadequacies and loopholes, the ABM treaty provided an outside-the-box solution that did have an overall impact, however limited, on the strategic arms race between the superpowers.

Today, given the alarming pace of developments in the strategic arms buildup in southern Asia,¹ it is time for India, China, and Pakistan to think big and outside-the-box, and perhaps even learn from the Cold War experience. Slowly but steadily, the southern Asian region is entering a new phase of ballistic missile competition characterized by a constant search for countermeasures to defend against these missiles by means of ballistic missile defense (BMD) capability. China's ballistic missiles can reach all of India; India's 5,500-km-range Agni-V ballistic missile, once inducted, will threaten key Chinese targets; and Pakistan's 2,750-km-range Shaheen-III missile could potentially reach the south of India. In order to deter against these ballistic missile threats, all three states are currently engaged in implementing or contemplating BMD systems, increased missile inventories, and other countermeasures. This competition could have serious implications for strategic stability.

In order to decelerate an intensified triangular strategic competition among China, India, and Pakistan, it makes sense to consider a trilateral ABM treaty among the regional powers that specifies constraints and limits on the development of BMD systems in the region. The proposed treaty does not envision a complete rollback or elimination of BMD systems, but rather would limit them to mutually acceptable limits.

Capabilities and Concerns

China has been developing nuclear-capable ballistic missiles, anti-satellite (ASAT) technology, and BMD systems. In conducting ASAT tests and, most importantly, ground-based, midcourse BMD tests, China seeks to implement an anti-access/

area-denial strategy.² Even though at least some of the Chinese weapon systems are a direct response to American extended deterrence commitments in Asia, India finds it necessary to take countermeasures to deter the Chinese systems. New Delhi also feels that it is caught in the cascade that stems from the quadrilateral nature of the Asian balance of power, where China reacts to the United States, India reacts to China, and Pakistan reacts to worst-case assessments of Indian capabilities.³

While no one in New Delhi fears a “bolt from the blue” Chinese nuclear first strike, the realization that Chinese nuclear strategy may be evolving in response to that of the United States, and the existence of a Sino-Pakistani strategic partnership, places New Delhi in a strategic predicament. After all, nuclear deterrence rests on the capability for assured retaliation. Indian strategic planners thus remain unsettled as the Chinese strategic arsenal grows, and because India may still not be able to hit key Chinese targets in the event of a crisis.⁴

There have also been worries in India about the development of Chinese ASAT capabilities, testing of which could be useful in the development of BMD.⁵ Indeed, such concerns have also led some to consider countermeasures to offset rising Chinese power. Bharath Gopalaswamy and Gaurav Kampani have argued that India is investing in ASAT technologies in response to concerns about China:

The evidence so far suggests that India is keeping its option on the KE (kinetic energy)-ASAT open. India has also indicated some interest in building a ground-based laser program although not much is known about the program in the public domain. Just recently, in March of 2011, DRDO tested a short-range ballistic missile interceptor, a radio frequency seeker, and a fiber-optic gyroscope, as parts of its ongoing anti-ballistic intercept program. These systems could also in theory serve as components of an operational KE-ASAT capability in the future.⁶

India’s Defence Research and Development Organization (DRDO) has been investing in BMD technology since at least the mid-1990s.⁷ The BMD program is widely understood to be a spinoff from its Integrated Guided Missile Development Program (IGMDP), which led to the successful development of missiles such as the Prithvi, Akash, and Agni. Some of the missiles developed as part of the IGMDP also have interceptor roles. Moreover, the missile technology evolution in India is ongoing in collaboration with international partners such as Israel, Russia, and the United States.⁸ India first tested its Prithvi Air Defence capability in 2006 and the Advanced Air Defence capability in December 2007; a number of repeat tests have followed.⁹ New Delhi has since been finessing its BMD capability under various test conditions.¹⁰

New Delhi’s interest in BMD also reflects concerns about Pakistan that are different from concerns about China. With regard to Pakistan, India is worried about the possibility of a rogue launch of its nuclear weapons, either by insiders within the Pakistan army or by terror outfits. To the Indian mind then, a limited

BMD would probably be useful in the event of a nonconventional nuclear threat from Pakistan. As I have argued elsewhere,

A limited BMD system increases deterrence by denial. The deterrent effect of BMD is not only applicable between rational state actors but also when non-state (rational or irrational) actors target state actors. For instance, if Pakistan-based non-state actors or rogue elements from the Pakistani armed forces target India with nuclear weapons, New Delhi, considering that such an attack is most likely to be very limited, will be able to properly comprehend and analyze the situation before contemplating an appropriate response. This is only possible if the political decision-making mechanisms and nuclear command and control in New Delhi survive such an attack.¹¹

Rajesh Basrur agrees that missile defense has certain values: “It can limit damage to oneself in the event deterrence fails. There are three ways in which deterrence might not work: if there is an accidental launch, and if there is an unauthorized ‘renegade’ launch, and if an undeterrable adversary engages in suicidal launch.”¹² Thus, New Delhi has good reasons to continue to pursue — but not necessarily deploy — BMD technologies. While India has no reason at this point to be worried about the physical security of Pakistan’s nuclear arsenal or the robustness of its nuclear command and control, developing BMD systems could help address potential future concerns of this nature, albeit partially.

India’s BMD project has made ripples in Pakistan, which believes that under an Indian BMD umbrella with potential outstanding capabilities, New Delhi would be able to carry out a first strike without fearing retaliation. After initially dismissing Indian claims about its BMD program, Pakistani views have become alarmist today: Pakistan not only considers Indian BMD to be deeply damaging to strategic stability in the region, but also is actively exploring ways to defeat it. That said, given its cash-strapped economy, Pakistan’s BMD options are likely to be both limited and expensive. Without proactive help from China, Rawalpindi will not be able to match India’s BMD capabilities.

Hence Pakistan is more likely to invest in systems to counter or circumvent India’s BMD plans, including heavily investing in short-range missiles and tactical nuclear weapons that cannot be countered by India’s BMD systems, placing multiple independently targetable re-entry vehicles (MIRVs) on some of its missiles, inducting advanced air defense systems produced by China or Russia, and increasing its warhead production. Pakistan has developed and flight-tested MIRV-capable ballistic missiles in order to penetrate an Indian BMD shield. Islamabad has flight-tested the 2,200-km-range Ababeel ballistic missile capable of carrying multiple nuclear warheads. A press release issued by Pakistan’s Inter Services Public Relations explicitly stated that the “development of Ababeel Weapon System is aimed at ensuring survivability of Pakistan’s ballistic missiles

in the growing regional Ballistic Missile Defence (BMD) environment. This will further reinforce deterrence.”¹³

Pakistani scholar Mansoor Ahmed explains potential Pakistani countermeasures against the Indian BMD:

Countermeasures could range from Maneuverable Re-entry Vehicles (MRVs) to maneuverable warheads deployed on single warhead systems such as the road-mobile Shaheen-I & II. These missiles can be launched on relatively short notice and are capable of striking targets deep inside India. Pakistan may already have developed MRVs for its Shaheen series of missiles, which would make it difficult for Indian BMDs to shoot them down. However, the development and deployment of Multiple Independently Targetable Re-entry Vehicles (MIRVs) seems to be the logical next step for Pakistan as a response to India’s BMD.

With MIRV and miniaturized warhead capability in place, Pakistan is likely to proceed with the deployment of compact and sophisticated plutonium-based boosted-fission and/or thermonuclear warheads on a variety of launch platforms, such as aircraft, land-based mobile or silo-launched ballistic missile sites, and most importantly submarines.¹⁴

Even though Pakistan’s ability to build a BMD system that can concern India’s defense planners remains limited and remote at this point, there are two principal reasons why Pakistan should be brought under the proposed Asian ABM treaty. First, participating in such an agreement could potentially reduce Pakistan’s fears about the Indian offensive capability. Second, if Pakistan were kept out of a treaty between India and China, China could potentially circumvent the agreement by helping Pakistan with its BMD systems.

It may be noted that stability considerations aside, both the BMD program and the countermeasures against it are expensive propositions for cash-strapped India and Pakistan.

What Can Be Done?

Given that the developments related to ballistic missiles, ballistic missile defense, and systems to counter BMD are fast progressing in the region, is there anything that the three states could do to effectively control and limit the consequences of these developments? It is unlikely that the three nuclear powers of the region would give up on their BMD pursuits for both strategic and technological reasons. More specifically, therefore, is it possible to have a solution that does not require the three countries to give up their BMD programs and yet could potentially decelerate the arms buildup?

I argue that one such solution could be to agree to a trilateral — China, India, and Pakistan — anti-ballistic missile defense agreement to limit their respective

BMD programs to a minimum, along the lines of the ABM Treaty of 1972 between the Soviet Union and United States.

The Cold War rivals were conscious of the disastrous implications of ballistic missile defenses for strategic stability, and hence entered into an agreement in 1972 to outlaw the building of national missile defenses (NMD) in their respective countries and in the territories of their respective treaty partners to defend against ballistic missiles. Overall, the ABM Treaty had a relatively stabilizing effect on superpower relations. The superpower efforts at limiting the construction of ballistic missile defenses through the ABM Treaty clearly privileged the stable deterrence induced by “mutually assured destruction” over the unilateral search for absolute guarantees of security.

The treaty permitted the two rivals to deploy two fixed, ground-based defense sites, each with 100 missile interceptors, with one site protecting the national capital and the second to protect an intercontinental ballistic missile field. A 1974 Protocol to the ABM Treaty brought the number of permitted sites down to one each.¹⁵

The Proposal

My proposal for a trilateral Asian BMD treaty closely resembles the 1972 treaty, with some differences. The most significant difference is that the southern Asian version would include three countries instead of two. I propose a treaty rather than an executive agreement because a treaty has a more formal and binding nature. Some of the basic features of the treaty would be:

1. China, India, and Pakistan would eschew any plans to build NMD umbrellas in their respective countries. The treaty need not cover allies of treaty members since the three states in question have not made any extended deterrence commitments.
2. The trilateral treaty would designate two sites in each of the countries where BMD systems could be constructed, should the parties to the treaty desire to do so. The distance between these sites could be open to negotiation since the geographical areas of the treaty members vary drastically. Even though the treaty would allow two sites to be under a BMD umbrella, this would only indicate an upper limit and would not be an invitation to build up to treaty limits.
3. The three sides would commit to not develop, test, or deploy sea-, air-, space-, or mobile-land-based BMD systems meant to protect sites other than those permitted by the treaty. However, they would be permitted to carry out research as well as fixed, land-based testing of missile defense or components thereof.
4. The number of missile interceptors to protect the sites allowed under the treaty would be decided through trilateral negotiations.

5. Since the deployment of several theater missile defense (TMD) systems can defeat the purpose of the proposed ban on NMD, the signatories would not be allowed to build missile defenses in more than two sites, whether TMD or BMD.
6. In order to avoid further arms racing, the proposed treaty would prohibit transfers of ABM interceptors and radars from other countries to treaty parties and between treaty parties. The technical specifications of such systems could be negotiated.
7. The proposed treaty would prohibit the upgrade of existing non-ABM missiles, launchers, or radars to have ABM capabilities once the treaty is signed.
8. The proposed treaty would prohibit the deployment of ABM systems or components outside the territory of the treaty partners.
9. The treaty parties would establish a joint commission to discuss details regarding protected sites, compliance, verification, treaty violations, and procedures relating to the dismantling of systems.

There are three options regarding limited BMD deployments: a two-site option similar to the original ABM treaty; a single site option, as adopted by the United States and Soviet Union in 1974 by partially modifying the ABM treaty; and a zero-site option. The third option would still allow the treaty parties to continue to pursue research and development and test programs for ASAT or BMD applications. Moreover, even if the state parties agreed to either one or two BMD sites, they could be considered as maximum permitted sites for deployment. In other words, they could keep the option open and decide not to deploy BMD systems in any of the permitted sites.

A zero-site option is less likely to be accepted by either China or India given the scientific developments undertaken by both countries over the past several years. For New Delhi, securing its capital from rogue launches using BMD remains an attractive proposition. The reason why two sites rather than one may be preferred by India and China is because their BMD-related developments seem to be moving in that direction. For both China and India, having BMD shields for their respective capital cities and main financial centers (Beijing and Shanghai, and New Delhi and Mumbai) could be an attractive option. One might argue that BMD deployments, realistically speaking, cannot safeguard these cities. But the two countries have powerful incentives — most importantly, pressure from the scientific communities — to move in the direction of developing BMD shields for their capitals and financial centers. At the same time, spending vast sums to expand the BMD program beyond two cities would be seen as wasteful.

Major Challenges

While the deterrent and economic benefits of a trilateral Asian ABM treaty are apparent, negotiating it would not be easy. There are powerful reasons for each of the states to refuse to negotiate, let alone sign it. Foremost among such reasons is the acute trust deficit among the three potential parties. Lack of trust would make it difficult for them to negotiate the treaty and evolve mechanisms for verification. Second, India and China may not have confidence in BMD limitations because continued testing on interceptors could occur in the guise of ASAT tests. Third, China has avoided discussing strategic (i.e., nuclear) issues with India, ostensibly because the latter is not a member of the Nuclear Non-Proliferation Treaty, but also because Beijing does not wish to acknowledge India as a major regional nuclear power. Given this history, Beijing may hesitate to enter into negotiations with India to finalize a serious treaty such as the one proposed.

Moreover, the cascading effect of strategic developments in the region might act as the most potent dampener for an Asian ABM treaty. Even if Chinese BMD developments are a result of its desire to balance extended American deterrence commitments in the region, it has implications for India's BMD decisions. And Indian decisions influence Pakistani strategic calculations. The key source of this cascading nature of strategic decisions is the American presence in the Asia-Pacific region, which India endorses and China opposes. Since the United States would not be a party to the proposed treaty, China would be hard-pressed to constrain its strategic options without constraints on U.S. strategic options, as well. This chain reaction can only be avoided if Washington makes explicit and iron-clad, if not treaty-bound, commitments about its strategic posture in the region. An example of such a commitment could be a unilateral undertaking by Washington that it would not seek to undermine the Chinese deterrent through its missile defense deployments in the region.

Why an Asian ABM Treaty Is Still Worth Considering

Despite the challenges identified above, the treaty is worthy of consideration. For one, the alternative is a dangerous, unchecked strategic arms race. Second, the provisions of the proposed treaty broadly cater to Indian and Pakistani insecurities that, if unaddressed, could lead to far greater nuclear requirements. Moreover, significant constraints on BMD deployments would be consistent with China's no-first-use and assured-destruction strategic postures. Third, despite the hype about BMD systems, both India and China realize that they are expensive and hardly foolproof defense systems. Similarly, militaries in all three countries are not great votaries of BMD systems since these systems do not necessarily cater to their organizational or operational requirements. However, forgoing missile defenses in their entirety may not be possible given that defense and scientific establishments in each country remain committed to these programs. Finally, an Asian ABM

treaty would give the three countries a chance to deliberate on issues related to the strategic arms race and confidence-building in Asia, a discussion that is long overdue. For these reasons, a China-India-Pakistan ABM treaty would help bring much-needed strategic stability to the southern Asian region.

Endnotes

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No Indian BMD for No Pakistani MIRVs

by Sadia Tasleem

Introduction

Nuclear competition is gradually driving South Asia toward greater uncertainty and instability. The introduction of new weapons systems in the region indicates an emerging trend in favor of warfighting doctrines in both India and Pakistan. The rapid growth of counterforce capabilities could enable decapitating first-strike options. India's testing of ballistic missile defense (BMD) interceptor missiles and Pakistan's testing of multiple independently targetable re-entry vehicle (MIRV) technology has further compounded technological and doctrinal uncertainties, making an already fragile region more volatile.

These troubling technological developments have also opened up an opportunity for arms control negotiations. A trade-off involving Pakistan's MIRVs and India's BMD could help impede the spiraling arms race between India and Pakistan. Given the fact that India's BMD has been a long-standing, acute concern for Pakistan, and that Pakistan rationalized the development of its MIRVs by alluding to India's BMD, such a trade-off should be welcomed by Pakistan. At the same time, India's BMD, regardless of its rationalization, could be neutralized should Pakistan deploy MIRVs along with cruise missiles and other penetration aids. Thus, the makings of a trade are apparent. It is high time for Pakistan and India to dampen these alarming trends by pursuing arms control.

The traditional approaches to arms control face momentous challenges in South Asia due to what many analysts call a security trilemma involving three hostile pairs: Pakistan vs. India, India vs. China, and China vs. the United States. Difficulties are further compounded by the asymmetry between India and Pakistan in terms of both their national power potential and ambitions. India, the greater power in the region, does not want to be locked up in equations with Pakistan. Under such circumstances, an arms control initiative can only be pursued under one of the following conditions:

1. One of the competing states decides to renounce the competition and pursue unilateral restraint;
2. All states involved in a competitive equation agree on a multilateral arrangement; or
3. A tailor-made bilateral arrangement is conceptualized based on the peculiar opportunities that may arise as a result of technological or geopolitical changes.

This essay explores the possibility of a tailor-made bilateral arrangement between India and Pakistan. I recognize the disproportionality that prevails between the two countries, and therefore propose circumventing the parity principle that is central to traditional arms control thinking. Instead, I focus on the fundamental principle of international negotiations, i.e., to augment the national security interests of both sides.

Both Pakistan and India would stand to gain from my proposal, if implemented. The trade-off proposed here would help Pakistan save its scarce financial resources to meet other more urgent social and military needs. India could also maximize gains by investing its liberated fiscal resources and the energy as well as the expertise of its scientists in more productive and cost-effective projects.

Destabilizing Trends

On January 24, 2017, Pakistan tested the Ababeel, a surface-to-surface ballistic missile that is reportedly capable of delivering MIRVs. In its press release for this launch, the Inter Services Public Relations Directorate noted, “Development of Ababeel weapon system is aimed at ensuring survivability of Pakistan’s ballistic missiles in the growing regional Ballistic Missile Defence (BMD) environment.”¹

This press release clarifies that India’s BMD is now inextricably linked with Pakistan’s MIRVs because of the implications each carries for the other. Developed to protect India’s political leadership, command-and-control centers, and other vital assets, India’s BMD could be rendered obsolete by Pakistan’s MIRVs and cruise missiles, along with other countermeasures and penetration aids. The induction of Pakistan’s MIRVs would, in turn, become high-priority targets that could provide a strong rationale for India to pursue counterforce capabilities in a serious way. Counterforce and BMD capabilities could then support those championing a decapitating strike. Although India might not be able to locate and target all of Pakistan’s missiles, the perceived threat of a first strike would continue to push Pakistan to increase the number of its existing warheads.

Such trends would accentuate perceptions of insecurity and heighten the “use it or lose it dilemma,” creating more instability. Consequently, these trends would further complicate calculations of the requirements for a stable and effective deterrent in both countries. As a result, the subcontinent’s arms race will continue to escalate. What would India and Pakistan stand to gain from such developments?

Conversely, the linkage of Pakistan’s MIRVs to India’s BMD creates space for negotiations. This linkage is not yet set in stone, however. Both of these systems are not yet fully developed. Nor have they been deployed, which makes them better candidates for arms control negotiations. As Gerard Smith, the famous U.S. Cold War arms control negotiator who negotiated the Anti-Ballistic Missile Treaty, has argued, “new systems are easier to stop than fully developed ones.”²

Despite various rounds of testing of BMD in India and a preliminary test of the capability to dispense MIRVs in Pakistan, these programs are far from fully developed. Much work has yet to be done to enhance accuracy and effectiveness; improve intelligence, surveillance and reconnaissance (ISR) capabilities; and resolve integration problems. However, once fully developed and deployed, these systems would become integral to plans and policies, shutting down the window of opportunity currently available. Now is the time to consider a bold, stabilizing, and cost-saving trade-off.

An Immodest Proposal

An innovative, tailor-made arms control arrangement could allow India and Pakistan to nip in the bud two noncomparable but interrelated systems. The Indian side would be required to commit to no future testing of interceptor missiles in an anti-ballistic missile mode, including Ashwin Advanced Defense interceptor missiles and the Prithvi Defense Vehicle. In addition, New Delhi would commit to the nondeployment of BMD launchers as well as interceptor missiles at sea, on land, in the atmosphere, and in space. Nothing in this proposed agreement would affect India's ISR capabilities, which would be a non-starter as improved ISR capabilities strengthen India's conventional defense and help augment its second-strike capabilities. In return, Pakistan should commit to nontesting and nondeployment of "multiple warheads atop a single missile" (i.e., both MIRVs and maneuverable but not independently targetable re-entry vehicles).

Laboratory testing might continue in both countries. This would help both sides avoid unacceptable risks. Continued research and development, but not field- or flight-testing, could act as a safeguard against noncompliance and any "break-out" from agreed obligations. Namely, if one side did X, the other side would not be disadvantaged because it could do Y. Would continued laboratory work short of field- and flight-testing as well as deployment constitute a deal-breaker? No, because continued research and development would instead be a safeguard while helping to unfreeze the existing diplomatic stalemate.

Under the present circumstances, India and Pakistan might not be willing to ink a formal agreement that they fear they would later regret. But a voluntary political commitment followed by unilateral moratoria announced by India and Pakistan regarding their respective commitments could create enough space and confidence on both sides to codify this arrangement in a formal treaty within a period of five years.

Both sides might seek help from partners that possess sufficient "national technical means" to monitor and ascertain compliance of the parallel non-field- and flight-testing and nondeployment commitments. The United States and China — both important stakeholders in the stability of South Asia — could be helpful in this regard.

India and Pakistan could also agree to hold extensive meetings over the next five years to explore transforming bilateral pledges into the provisions of a formal arms control treaty, including, but not limited to, the issues of withdrawal clauses and procedures for reviewing problems that emerge from the misunderstanding or misinterpretation of treaty clauses, as well as implementation questions. Reportedly, the American and Soviet negotiators had more than 1,500 arms control meetings by the end of the 1960s before they managed to prepare ground for Strategic Arms Limitation Talks.³ This process would be demanding for India and Pakistan as well, but a deeper appreciation of the grave risks inherent in an unwarranted and destabilizing arms race could provide the necessary impetus to break the existing deadlock and make some progress on arms restraint.

Challenges

Such an agreement would be difficult to achieve for numerous reasons. To begin with, the Defence Research and Development Organization (DRDO) in India and the military in Pakistan might oppose this proposal because of their peculiar institutional outlooks and interests in their respective weapon systems. Pakistan's military would resist any attempts to constrain its counterforce capabilities. Likewise, the DRDO would likely challenge this proposal because of its financial stake in these technologies.

Another significant challenge is that this proposal defies the conventional wisdom that arms control agreements limit the same types of forces. My proposal does not fit the framework of constraining like forces. Therefore, Pakistan might find it threatening to give up its MIRVs while India retains its MIRV capability. Likewise, India might find it pointless to trade off what it sees as a defensive capability meant to meet a variety of threats — and not just those emanating from Pakistan.

This points to yet another significant challenge: China is absent from these equations. It would be difficult to persuade India to constrain its BMD program as long as the possibility exists of China deploying a BMD system. However, many analysts argue that even if China were to deploy BMD, it would be a thin deployment.⁴ In all likelihood, a thin deployment would not undermine India's strategic deterrence, particularly in the presence of India's long-range missiles with MIRV capability.

Even with all of these obstacles, my proposal offers more national security benefits than risks to both Pakistan and India.

Advantages for Pakistan

India's BMD is one of the key drivers behind Pakistan's MIRV program. If India could agree to this proposal, Pakistan would stand to gain in several important

ways. To begin with, the military utility of Pakistan's MIRVs vis-à-vis India's remains debatable. Evaluating the military utility of Pakistan's MIRVs, Ankit Panda writes, "voices in New Delhi may use [Pakistan's induction of MIRVs] as the straw to break the camel's back on either no-first-use or on at least New Delhi pursuing its own symmetrical lower-yield battlefield nuclear option for a proportional low-level nuclear warfighting capability."⁵

Would a trade-off of Pakistan's MIRVs for no Indian BMD bring India a decisive military advantage? Not necessarily. The answer partly depends on whether India develops MIRVs, which is almost inevitable if Pakistan does, but far from assured if Pakistan does not. Moreover, improvement in ISR capabilities resulting in better targeting with land- and sea-based cruise missiles could compensate for a Pakistani decision to forgo MIRVs. Also, Pakistan is "possibly building hard and deeply buried storage and launch facilities" that could strengthen command and control as well as survivability.⁶ Besides, Pakistan would continue to possess sufficient diversity in its weapons systems and platforms to strengthen its deterrent. Moreover, as noted earlier, Pakistani MIRVs would become a sponge for Indian warheads, raising concerns of unstable, offsetting deterrents.

In addition, MIRVs incur exorbitant costs in terms of both financial implications and fissile material consumption. Although precise costs cannot be estimated, if the experience of states that have developed similar technologies is any guide, such projects incur heavy expenses. For a state like Pakistan, with its fragile economy, this would be unwise. Granted, Pakistan's military seems to get what it wants in terms of funding, but at some point, conventional capabilities will suffer in a strategic competition with India.

Moreover, Pakistan's plutonium requirements are consistently increasing in the wake of its commitment to full spectrum deterrence and a nuclear triad. Additional infrastructure requirements might be needed for MIRVs. Under such circumstances, negotiating a way out of MIRVs might be both cost-effective and productive.

Advantages for India

The strategic effectiveness of India's BMD is heavily contested, even inside India. Critics offer various reasons for their skepticism, including cost, effectiveness, technological challenges, and basic geography.⁷ The strongest proponents of BMD acknowledge that national coverage is not feasible or affordable. Therefore, it would only provide limited security.⁸

Above all, geography poses significant handicaps for Indian BMD, given the short flight times between the two countries. Nor does India possess the early warning capabilities to help with intercepts. Pakistan's MIRVs would make Indian investments in BMD even more untenable.

Conclusion

If negotiated and properly implemented, an agreement by Pakistan to forgo MIRVs if India were to forgo BMD would save resources, help reduce nuclear dangers, stabilize India-Pakistan relations, and help break the deadlock and create space for negotiations between two nuclear armed states that face very different sets of threats and stand on different pedestals in terms of their national power and resources.

This idea — if it were to come to fruition — would help curtail the ongoing, expensive arms race between India and Pakistan and slow down destabilizing trends favoring the direction of warfighting doctrines in South Asia. Given the possible payoffs of this proposal, it deserves to be seriously considered. The challenges mentioned above are huge but not insurmountable. Political will and commitment to avoid costly adventures can help create conducive conditions to make this proposal a stepping stone for a more comprehensive arms control regime.

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Enact a Restraint Regime on MIRV Flight-Testing in South Asia

Zafar Khan

Introduction

A restraint regime on multiple independently targetable re-entry vehicle (MIRV) flight-testing becomes imperative at a time when strategic stability is decreasing in South Asia. India is embarking on multiple projects and sophisticated delivery systems — including MIRV technology — while Pakistan seeks effective countermeasures to retain balance, if not parity, against its adversary. The result is an intensified security dilemma. It is imperative to note that effective countermeasures can also undermine the credibility of the adversary's deterrent forces, thereby fostering further “entanglement” and escalatory reactions.¹

India and Pakistan would be wise to pursue a mutual restraint regime on the flight-testing of MIRVs. This could be one element of a wider strategic restraint regime (SRR) that Pakistan proposed more than a decade ago, adapted to current realities. Once MIRVs are flight-tested on military launchers, prospects for strategic restraint will be far more remote because neither side will be able to count on restraint for missiles capable of carrying MIRVs. Instead, both are likely to presume worst-case thinking that such missiles are carrying MIRVs. In addition to promoting strategic stability, it is expected that a restraint regime on flight-testing of MIRVs and on ballistic missile defense (BMD) systems could help reduce the cost of spending on deterrent forces, maintain deterrence at lower levels, and remove one pathway to preemptive counterforce targeting between India and Pakistan.² A MIRV flight-testing restraint regime would allow India and Pakistan to help sustain deterrence stability and avoid repeating the errors of the Soviet Union and the United States during the Cold War.

This essay proposes restraint on the flight-testing of MIRVs as an element of a broader SRR between India and Pakistan. I will discuss the rationale for restraint on the flight-testing of MIRVs, the hurdles confronting India and Pakistan in accepting this proposal, and the reasons why these hurdles might be surmountable.

Why Restraint on MIRV Flight-Testing Matters

One important reason why India and Pakistan might be amenable to a tacit agreement not to flight-test MIRVs is that strategic stability is declining because of many advances in nuclear-weapons-related programs, with the risk that both

countries could get dragged into an unending arms race. A tacit agreement not to undertake MIRV flight-testing could become an important element in decelerating this strategic competition, saving expenditures, and removing one pathway to catalytic war prompted by fears of surprise attack by means of large numbers of ballistic missile warheads.

Second, Pakistan and India have good reason to consider a tacit agreement not to flight-test MIRVs because both countries are acutely aware of what happened between the Soviet Union and the United States during the Cold War. While India and Pakistan are unlikely to mimic the superpowers by producing and deploying many MIRVed warheads, limited MIRV deployments could still have significant negative consequences, fueling an intensified arms race between the two South Asian rivals. An arms race facing India and Pakistan could be decelerated by creating some form of SRR that does not exist in South Asia. A tacit agreement not to flight-test MIRVs could be an important element of this SRR, providing a key component for a proposed mutual restraint regime.

Third, a tacit agreement not to flight-test MIRVs could help India and Pakistan avoid getting bogged down in pursuing comprehensive counterforce nuclear targeting strategies by means of medium- and longer-range ballistic missiles. Granted, other forms of counterforce-targeting capabilities would continue to exist — for example, by nuclear-capable aircraft — but the most worrisome nuclear-warfighting capabilities reside in ballistic missiles that are waiting to be multiplied in South Asia. The MIRVing of these missiles would increase mutual concerns of preemptive strikes, with significant consequences for strategic stability. If India pursued this course, Pakistan would have no choice but to pursue a strategy of effective and reliable countermeasures in a “new era of counterforce”³ to sustain a balance in South Asia. The acceptance of mutual strategic restraint with respect to MIRVs could provide reassurance against worst cases and reduce mutual concerns over a catalytic war prompted by an accident or other triggering event.

Hurdles to Restraints on Flight-Testing MIRVs

Hurdles to a joint tacit agreement exist for both India and Pakistan. The biggest hurdle for India is that an agreement with Pakistan not to flight-test missiles carrying more than one warhead would not include China. This means that India could fall further behind China if it does not MIRV while China does.

China is undergoing several strategic modernization and space warfare programs that might be of concern to India. For example, China’s MIRV program, the modernization of its sea- and land-based deterrent, and its pursuit of advanced conventional capabilities and aircraft carriers are of concern for U.S. strategists.⁴ These programs seem more directed at the United States than India, but may increase pressures on New Delhi to respond to Beijing. A tacit agreement with Pakistan to refrain from flight-testing MIRVs would restrict one avenue of India’s response.

India might also be disinclined to join a restraint regime on MIRV flight-testing because Pakistan could be disadvantaged in such a competition, as India has the stronger economic base to produce MIRVed-capable land- and sea-based missiles. A refusal to entertain a proposed restraint regime on flight-testing MIRVs could be viewed in Pakistan as consistent with a strategy by India to exploit its economic potential and to seek escalation dominance.

One big hurdle for Pakistan might be that a joint tacit agreement against MIRV flight-testing could constrain its potential requirements for counterforce capabilities and full spectrum deterrence as an evolving part of Pakistan's credible minimum deterrence to plug deterrence gaps. A second big hurdle is that MIRVs are a cost-effective way to compete with India; without them, Pakistan would have to produce and field more missiles. Pakistan faces resource and budget constraints, so strategic planners might oppose ruling out an option that would be cost-effective.

A third hurdle for Pakistan would be India's continued interest and development of BMD technology. If or when India decides to deploy BMD, missiles carrying multiple warheads and penetration aids would presumably be needed to assure penetration of such defenses. Otherwise, New Delhi could perceive strategic incentives to opt for a preemptive counterforce strike posture. Pakistan does not believe in India's declared no-first-use (NFU) doctrine,⁵ and suggestions by senior Indian strategic analysts to move away from NFU have only reinforced Pakistan's skepticism.⁶ India's pursuit of both MIRVs and BMD could place Pakistan in an untenable position without MIRVs. It is most likely that Pakistan would pursue effective countermeasures in response to these developments if such a gap is deemed important to fill.

Surmounting These Hurdles

Very high hurdles must be cleared before India and Pakistan would accept a MIRV flight-testing restraint regime. Why, then, might these hurdles be surmountable?

There are at least two main reasons why both India and Pakistan might agree with this proposal. First, both countries have repeatedly stated their adherence to the principles of credible minimum deterrence and have not yet equated credible minimum deterrence with counterforce warfighting capabilities. If this crucial juncture is crossed, nuclear capabilities on both sides could grow significantly. Presumably, if an SRR is to take hold on the subcontinent, it could only be before MIRVs have been flight-tested, not after MIRVs are inducted. By opting not to flight-test MIRVs and pursue nuclear-warfighting strategies of deterrence, India and Pakistan could avoid a costly, destabilizing, and open-ended nuclear competition.

This dilemma weighs heavily on both countries. Pakistan has resource constraints. India also faces a strategic security dilemma to deter both China and Pakistan.⁷ The way out of these dilemmas is to arrest the slide from credible minimum deterrence to nuclear-warfighting strategies of deterrence. Nuclear

postures of credible minimum deterrence, which are in the mutual interest of India and Pakistan, can be maintained in the absence of MIRV flight-testing. India and Pakistan's mutual security dilemma cannot easily be resolved or mitigated unless there is a mutual cooperation based on cost-benefit analysis.⁸ If, however, MIRVs are flight-tested, nuclear-warfighting postures will be advanced, to the detriment of both countries.

A second reason is related to the first: The avoidance of a much-accelerated strategic competition in South Asia is inconceivable if India and Pakistan flight-test and deploy BMD alongside MIRVs. If, however, they could agree through some form of restraint mechanism on deploying BMD, then it could become easier to consider restraints on MIRVs. The reason, as demonstrated during the Cold War, is that limits on offenses are unlikely without limits on defenses because defenses could well be considered complementary to strategic offenses.⁹ This also applies to the nuclear deterrent relationship between India and Pakistan. As India improves its missile defenses, it could potentially impel Pakistan to increase effective countermeasures to defeat deployed defenses.

Conclusion

This is a critical juncture in the nuclear competition in South Asia. An unending arms race is in store for India and Pakistan unless bold ideas for strategic restraint are adopted. There is a dire need for a tacit agreement not to flight-test MIRVs to encourage deterrence stability and help prevent the adoption of nuclear-warfighting capabilities that could prompt catalytic war in the event of nuclear use. Arguably, mutual restraint in abstaining from flight-testing and deploying a technologically sophisticated capability such as MIRVs may seem far-fetched, but it is necessary to avoid a new phase of strategic competition.

Both India and Pakistan could agree to a tacit restraint regime on flight-testing MIRVs since this capability has not been fully developed and deployed. While India has demonstrated the capability through its Prahaar battlefield nuclear weapon flight-testing program¹⁰ and its deployment of many satellites from a single space-launch vehicle, this capability could soon be applied to military launchers. Pakistan has announced its capability to flight-test MIRVs on military launchers,¹¹ but has yet to do so. A proposed restraint regime might be pursued at this junction because military flight-testing has yet to begin from both sides and because both countries have the ability to react in the event that a tacit agreement is broken.

Admittedly, these are high hurdles to be surmounted. India might want to MIRV because China has MIRVed. And Pakistan would likely MIRV if India has MIRVed. India's development of BMD systems could also largely impel Pakistan to MIRV in order to achieve capability to defeat the deployed system.¹² Nevertheless, these hurdles could be surmounted for one overriding reason: If India and Pakistan are lured into the pitfalls of nuclear-warfighting doctrine

rooted in counterforce-targeting strategies, nuclear dangers would grow considerably.¹³ This action-reaction paradigm stemming from a classic security dilemma could further undermine deterrence stability in South Asia, which is in neither India nor Pakistan's interest. Therefore, this proposal, ideally as part of an expanded SRR in South Asia, makes eminent good sense.

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Part 3

**ACCOUNT FOR HUMANITARIAN
AND ENVIRONMENTAL CONSEQUENCES**



Establish a Joint India-Pakistan Initiative on the Humanitarian Impact of Nuclear Weapons

Arka Biswas

Introduction

Efforts under the international initiative on the humanitarian impact of nuclear weapons (HINW) led to adoption of Resolution L.41 by the First Committee of the United Nations General Assembly (UNGA) on October 27, 2016, and Resolution 71/258 by the UNGA on December 23, 2016. This resolution calls for a United Nations (U.N.) conference to negotiate a “legally binding instrument to prohibit nuclear weapons, leading towards their total elimination.”¹ The conference held negotiations in March and June-July 2017 at the U.N. headquarters in New York. These led to the adoption of the Treaty on the Prohibition of Nuclear Weapons on July 7, 2017.² While India and Pakistan attended all three international conferences on the HINW that preceded these negotiations, neither endorsed the U.N. resolution nor expressed any inclination toward signing on to the treaty.

India abstained from voting on the resolution by noting that the Conference on Disarmament, an established U.N. body, should have the mandate to negotiate a comprehensive instrument on nuclear disarmament. New Delhi also observed that the proposed negotiations for a treaty banning nuclear weapons would not meet the long-standing expectation of the international community for a comprehensive instrument of nuclear disarmament, especially in the absence of endorsement by nuclear-weapon states. Adding that verification would be a key component of a comprehensive instrument of global nuclear disarmament, New Delhi argued that a treaty banning nuclear weapons would not address such challenges to nuclear disarmament.³

While echoing India’s argument on the need for negotiations within the Conference on Disarmament, Pakistan argued that at each step of the disarmament process, the security of every state should be kept in mind and that each of these steps should not diminish security even at the lowest possible levels of armaments and military forces.⁴ Despite their abstention, India and Pakistan provided significant support to this international initiative, being the only two states possessing nuclear weapons to have participated in the three international conferences on HINW, even though their reasons for having attended these conferences had arguably less to do with concerns over the HINW.⁵

India and Pakistan could further demonstrate their responsible stewardship of nuclear weapons by launching a bilateral initiative on the HINW wherein their national leaders would commit to undertake a joint assessment of the

environmental and humanitarian consequences of detonations of nuclear weapons on the subcontinent. This initiative would reflect their understanding of the horrific consequences of nuclear exchanges and convey their resolve to avoid the same — not just to their own publics, but to the international community as well. This essay explores such a bilateral initiative, which, if seriously undertaken, could constitute a meaningful step that could reduce nuclear dangers in South Asia as well as strengthen regional stability.

The Proposal

Under the proposed bilateral initiative on the HINW, New Delhi and Islamabad would agree to undertake a joint scientific assessment of the environmental and humanitarian impacts of nuclear exchanges between the two South Asian nuclear powers. The two leaderships would establish a joint committee of scientific experts, environmental analysts, and humanitarian, medical, and disaster relief personnel that would conduct an independent, technical assessment of the impact of various levels of Indian and Pakistani nuclear detonations. Estimation of the number of detonations and their yields would be notional, and not based on details of actual operational devices that the two sides possess. The review would postulate varied locations for detonations. The assessment would also take into account the availability and numbers of appropriate delivery vehicles that the two countries could use to deliver nuclear warheads, based on unclassified estimates.

Once a detailed review of the environmental and humanitarian impact of nuclear exchanges between India and Pakistan is prepared within an agreed time frame, the two leaderships would jointly release the findings of the review to their publics and to the international community for study and scrutiny. Under the initiative, the two leaderships would also commit to biennial reviews of the assessment that would take into account the impact of any new, significant, and pertinent development in India and Pakistan. The leaders of India and Pakistan would also challenge other nuclear-armed rivals to carry out similar joint scientific assessments of the environmental and humanitarian impacts of nuclear detonations.

Given that a use of nuclear weapons or a nuclear war could have devastating impacts on neighboring countries as well, India and Pakistan could consider inviting experts from countries such as Afghanistan, Bangladesh, China, Nepal, and Sri Lanka, among others, at these biennial review meetings.

Challenges

There could well be opposition from within India and Pakistan to the proposed bilateral initiative on HINW. This section anticipates such challenges and contemplates ways through which they might be overcome. Within Pakistan, Rawalpindi might well oppose any initiative that diminishes the perceived value

of the country's reliance on nuclear weapons, as well as the threat of nuclear weapons' first use to deter India's conventional offensives. Rawalpindi's concerns could be heightened as military planners in New Delhi contemplate the feasibility of employing the doctrine of Cold Start, wherein the Indian army would conduct low-scale, swift conventional attacks across the Line of Control or international boundaries.⁶ Rawalpindi would like to emphasize the threat of using its tactical nuclear weapons first, with the attendant prospect of uncontrolled escalation to prevent Indian advances.⁷

Rawalpindi might, however, back this initiative in light of indicators that New Delhi is contemplating massive retaliation and even preemptive use of nuclear weapons — as well as Cold Start. Two decades since overt nuclearization, the debate in New Delhi is heating up to strengthen deterrence by means of counterforce targeting.⁸ A joint scientific assessment of the environmental and humanitarian consequences of nuclear weapons use could reinforce voices in India that continue to regard nuclear weapons as political tools and not as instruments of nuclear warfighting. A joint assessment could remind policymakers in New Delhi of India's long-standing commitment to nuclear disarmament, thus calling for a minimal role of nuclear weapons in India's national security. Rawalpindi might also agree to this proposal in order to reduce international criticism of its expansive nuclear-weapons-related programs, showcasing its awareness of the disastrous consequences of the same.

The Indian government, on the other hand, might object to any initiative that could be perceived as tagging India's standing in the global nuclear order to that of Pakistan. New Delhi has continued to cite its exceptional nuclear nonproliferation record and its commitment to nuclear disarmament while working on its integration into the global nuclear order. Since overt nuclearization in 1998, New Delhi has expressed its support for the principles of the Nuclear Non-Proliferation Treaty, despite being unable to sign it as a non-nuclear-weapon state owing to its national security concerns. With indeed an exemplary track record on nuclear nonproliferation, India is finding a more comfortable place within the global nuclear order. The 2008 waiver from the Nuclear Suppliers Group (NSG) allowing India to engage in global nuclear commerce for peaceful purposes without having to implement full-scope safeguards of the International Atomic Energy Agency reflects this transition. Pakistan has received no such waiver. New Delhi seeks increased separation from Pakistan, so why should India take part in such an initiative?

There are four reasons why New Delhi might agree to pursue a joint technical assessment with Pakistan. First, this initiative would demonstrate India's willingness to encourage Pakistan into becoming a responsible state possessing nuclear weapons, as well as demonstrate its own commitment toward responsible nuclear stewardship. Second, by undertaking this initiative, New Delhi might advance its prospects for joining the NSG. While this may not directly soften China's opposition to India's entry to the NSG, it could certainly influence the position of fence-sitters. Third, the proposed bilateral initiative would underline India's commitment to global nuclear disarmament.

In addition, New Delhi would set an example for other nuclear-weapon states to follow its lead in conducting similar assessments of the environmental and humanitarian consequences of nuclear weapons. India has for decades been calling for a treaty banning nuclear weapons that leads to a time-bound, global, and comprehensive nuclear disarmament. Former Indian Prime Minister Rajiv Gandhi's call for a nuclear-weapons-free world in 1988 at the U.N. General Assembly is widely known in India and across the world. India could demonstrate the continuity of its commitment to nuclear disarmament by lending support to the process through this bilateral initiative.

Apart from the aforementioned two challenges posed by Rawalpindi and New Delhi, a third challenge could emerge with regard to agreement on the framework, parameters, and scope of the joint assessment. Pitfalls could occur in deciding jointly whether the assessment of the environmental and humanitarian consequences of nuclear exchanges would be scenario-specific, derived from India's and Pakistan's nuclear postures, or comprehensive, encompassing the use of varying numbers of nuclear weapons by the two sides. While terms of reference for the proposed joint assessment could require time to come to an agreement, this task should not be unsurmountable.

Conclusion

The proposed bilateral initiative on the humanitarian impact of nuclear weapons could offer numerous benefits to both India and Pakistan. First, it would allow them to exert political pressure on other nuclear-weapon states to undertake similar studies, whether unilaterally, bilaterally, or multilaterally. By conducting the proposed joint assessment of the environmental and humanitarian consequences of nuclear exchanges, India and Pakistan would demonstrate responsible nuclear stewardship, and thus enhance their political standing in the global nuclear order. Second, by welcoming the participation of scientific experts nominated by their neighboring governments for the biennial reviews of the study, India and Pakistan would clarify their recognition of a joint responsibility to avoid a wider regional catastrophe and to promote regional peace and stability. Third, even as India and Pakistan remain distant from the global initiative on the HINW, the proposed bilateral initiative would lend support to international efforts toward banning nuclear weapons and toward comprehensive nuclear disarmament. Finally, this initiative would promote and encourage voices from civil society within India and Pakistan that question the intensified nuclear competition now underway. The commencement of joint technical assessments of the environmental and humanitarian consequences on nuclear exchanges could help slow down the ongoing nuclear arms buildup between the two South Asian nuclear neighbors.

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Convene a Joint Commission on the Consequences of a Nuclear War in South Asia

Saira Bano

Introduction

The nuclear arms race between India and Pakistan is intensifying, and with it, the possibility of a nuclear war. Both nuclear-armed states are developing new weaponry and considering more aggressive doctrines. India is testing its first nuclear-powered submarine to carry nuclear-armed missiles while Pakistan has expanded its short-range missile capability. In this environment, a small incident could lead inexorably to an all-out nuclear conflagration resulting in catastrophic destruction. Millions of human casualties, along with a global “nuclear winter,” would lead to unprecedented suffering and death.¹

While the possibility of nuclear war in South Asia has alarmed the international community, public opinion in both India and Pakistan is more sanguine. Nationalist support for nuclear-weapons programs is strong in both countries as these weapons are considered symbols of national glory, power, and achievement. Better public understanding of the consequences of a nuclear attack might help de-link nuclear weapons from notions of national pride and consequently reduce the pressure on policymakers to exercise the nuclear option in a deep crisis between the two rivals. This essay proposes convening a joint, binational study by Indian and Pakistani experts on the impact of nuclear war in South Asia. The findings of this study should be published in newspapers, high school textbooks, and military journals in both states. This would enhance public understanding of the horrific consequences of nuclear detonations.

Nuclear Threats and Public Opinion

During crises between India and Pakistan, policymakers have repeatedly made unvarnished or thinly veiled nuclear threats. In response to the Indian Army’s “surgical strike” across the Line of Control in Kashmir in September 2016, Pakistan’s Defense Minister — and now Foreign Minister — Khawaja Asif said, “[The] Pakistan army is fully prepared to answer any misadventure of India. We have not made atomic device to display in a showcase. If such a situation arises we will use it and eliminate India.”² Subramanian Swamy, a member of the upper house of India’s parliament for the ruling Bharatiya Janata Party, made a similar statement days before, saying that “if 100 million Indians died in a Pakistani nuclear attack, India’s retaliation would wipe out Pakistan.”³

Previous crises have also demonstrated the apparent fearlessness of leaders in issuing nuclear threats. During the Twin Peaks Crisis (2001-2002), Pakistani President Pervez Musharraf stated that nuclear weapons could be used “if Pakistan is threatened with extinction, [for] then the pressure of our countrymen would be so big that this option, too, would have to be considered.”⁴ During the same crisis, Pakistani Lieutenant General Javed Ashraf Qazi, the former chief of Inter-Services Intelligence, said, “If Pakistan is being destroyed through conventional means, we will destroy them by using the nuclear option. If I am going down the ditch, I will also take my enemy with me.”⁵ In 2003, Indian Defense Minister George Fernandes stated that “the Pakistani leadership should not get into the idea of committing suicide because we can take a bomb or two more,” while Pakistan would be wiped out in the event of a nuclear conflict with India.⁶

With each crisis, there is potential for nuclear brinkmanship and diminished political restraint. There is no guarantee that a joint study of the effects of nuclear weapons will stop incendiary statements in a crisis, but a joint assessment would reveal the speakers’ incomprehension of the destructive potential of nuclear weapons and the irresponsibility of making provocative declarations in a nuclearized environment.

Informed and organized public opinion is essential to constraining the use of nuclear weapons and keeping policymakers in check. In India and Pakistan, there is a low level of public awareness of nuclear dangers, and one finds a blasé indifference to the horrific consequences of their use.⁷ During the Twin Peaks Crisis, the BBC reported a great deal of ignorance among the Pakistani and Indian publics about “what a nuclear war means.”⁸ Even educated people with access to technology, as seen on Indian social media platforms following the 2016 Uri attack, do not have a good understanding of basic nuclear realities and offer worrying levels of support for nuclear use.⁹ It seems likely that those supporting nuclear use lack an understanding of the consequences of nuclear exchanges.

The Impact of a Nuclear War

To understand the effects of nuclear weapons, one must refer to the experiences of Hiroshima and Nagasaki in 1945. By today’s standards the Hiroshima bomb was a relatively small weapon, at 20 kilotons of explosive power, that killed 140,000 people and destroyed more than 10 square kilometers of the city.¹⁰ The survivors of Hiroshima also had or have increased incidence of leukemia, various kinds of cancer, premature death, visual impairment, and lung and degenerative diseases.¹¹

This history, combined with evidence from computer models, illustrates that even limited nuclear exchanges between India and Pakistan could bring utter catastrophe. Besides widespread destruction and devastating health effects, water and food would be scarce, housing and shelter would be unavailable for hundreds of thousands, and transportation and communication would break down completely.

Existing governmental and nongovernmental assessments of a South Asian nuclear exchange vary depending on the targets struck, the bomb yield, the weather, and the bombs' burst altitudes. In 2002, an intelligence assessment by the U.S. Department of Defense predicted that a full-scale nuclear exchange of "a couple of dozen" Pakistani and "several dozen" Indian Hiroshima-sized bombs would result in 12 million deaths and up to 7 million injured.¹² The long-term consequences would require a vast amount of foreign assistance to deal with "radioactive contamination, famine, and disease."¹³ A 2007 study from several American universities found that if India and Pakistan fought a war detonating 100 Hiroshima-sized nuclear weapons, more than 21 million people would be killed directly and more than half of the ozone layer would be destroyed.¹⁴

Another nongovernmental study calculated that, as a result of the higher urban densities in South Asian cities today, 10 Hiroshima-sized explosions over 10 major cities in India and Pakistan would kill as many as three to four times more people per bomb than in Japan in 1945.¹⁵ It is estimated that 3 million people would be killed immediately.¹⁶ Another 1.5 million people would be severely injured because of radiation sickness, and as many as 30 million people would be threatened by the fallout from the attack.¹⁷ Alex Wellerstein, a nuclear historian at the Stevens Institute of Technology, developed a free, online program for modeling the impact of nuclear detonations.¹⁸ The model shows that an Indian nuclear weapon with a 60-kiloton-yield striking Karachi would result in approximately 449,000 fatalities and 794,000 injured; similarly, a 45-kiloton bomb striking Mumbai would result in approximately 403,000 deaths and 573,000 injuries.¹⁹

The consequences of a South Asian nuclear exchange would not be limited to the subcontinent. Indeed, such an exchange would have far-reaching and devastating global consequences. The absorption of sunlight by the smoke and soot resulting from a nuclear exchange would trigger global cooling that could persist for more than 25 years.²⁰ Average surface temperatures would fall to their coldest in the last 1,000 years.²¹ The combination of prolonged cooling and ozone loss could devastate food supplies around the world.²² Another study concludes that "it is conceivable that the global pressures on food supplies from a regional nuclear conflict could, directly or via ensuing panic, significantly degrade global food security or even produce a global nuclear famine."²³

The Proposal

This essay proposes commissioning a joint study to assess the impacts of nuclear attacks on India and Pakistan in order to increase public understanding of the ramifications of nuclear war. While the assessments above provide some indication of the ramifications of a nuclear exchange, a binational, nonpartisan commission would carry greater weight among the Indian and Pakistani publics than would governmental and academic studies originating outside of South Asia. Both governments would agree to undertake a joint scientific assessment of the physical,

biological, social, and environmental impacts of a nuclear exchange made by the other on city centers in both countries. This joint committee, composed of scientific experts from both countries, would conduct an independent study on the impact of nuclear attacks by estimating the number of detonations and their yields.

The studies mentioned in the previous section assumed different numbers of nuclear detonations and resulting consequences. As such, an important task of the joint committee would be to establish a baseline regarding the number of detonations, yields, and consequences. The purview of the committee would include assessments of immediate death tolls, injuries, temperature changes, food contamination, epidemics from radionuclides, shortening of growing seasons, and long-term health effects. The committee would also assess the effects of such an exchange on neighboring countries as well as global repercussions. The committee would meet annually to update the findings by taking into account any significant development in Indian or Pakistani nuclear strategy or development.

Once the study is completed within an agreed-upon time frame, both countries would jointly release the findings of the committee to their respective publics. Both states would include summaries of the findings in high school textbooks, ensuring that a large portion of the literate youth population (70.3 percent in Pakistan and 81.4 percent in India) would have access to a fuller understanding of the effects of a nuclear war.²⁴

The distribution of this shared knowledge would aid advocates of nuclear restraint in promoting policies that reduce nuclear danger in the region. A joint India-Pakistan assessment would clarify that a nuclear exchange in South Asia would fulfill former Soviet Premier Nikita Khrushchev's conclusion that "the survivors will envy the dead."²⁵

Benefits and Challenges

It is in the collective interest of India and Pakistan to commission this joint study because well-informed public opinion can be a great force for peace.²⁶ It is the responsibility of both states to provide the public with the necessary information to help them in making informed judgments on nuclear issues. Informed judgments rest on an understanding of the devastating consequences of the use of nuclear weapons.

This initiative would have seven benefits for India and Pakistan. First, it would demonstrate that both powers are responsible nuclear states and understand the significance of informed public opinion on nuclear deterrence. Second, it would lessen international concerns that nuclear nationalism in both countries increases the chances of a nuclear war. Third, informed public opinion would act as a restraint on public demands that leaders exercise the nuclear option. Fourth, given that a nuclear war would have a devastating impact on neighboring countries, this

initiative could also serve as a regional confidence-building measure by inviting experts from China, Afghanistan, Bangladesh, Nepal, and Sri Lanka to the joint commission's annual meeting.

Fifth, in enhancing India's and Pakistan's image as responsible nuclear-armed states, the joint study could improve both countries' prospects for membership into the Nuclear Suppliers Group (NSG). India's involvement in the joint commission might not soften China's position regarding India's proposed membership into the NSG, but it could ease the opposition of other states.²⁷ For Pakistan, the joint commission would improve Islamabad's checkered history of nuclear proliferation. Sixth, this initiative could aid in stabilizing deterrence as Pakistan seeks to be viewed as a responsible nuclear power. Namely, the joint commission could restrain New Delhi from pursuing the Cold Start doctrine and its massive-retaliation nuclear posture. Seventh, this initiative would provide a socialization opportunity for nuclear experts, encouraging a better understanding of each other's viewpoints that could prove to be a de-escalatory tool during a crisis. As such, this initiative could create a pool of like-minded individuals — supportive of cooperative security — spanning national borders.

However, this proposal will likely face opposition from several corners in both countries. The nuclear establishment in both countries might oppose any initiative that diminishes the perceived value of nuclear weapons. Likewise, national security has been increasingly invoked by leaders in both states to justify secrecy on practically all aspects of their respective nuclear programs. The secrecy of the nuclear establishment and their power to operate without any forum where they can be held accountable has resulted in a stunted debate. Bureaucratic interests in both states would resist this initiative that might curb such secrecy and initiate a greater level of debate on this issue.

Another challenge could be how to handle access to potentially classified information in assessing the impact of a nuclear war. The joint commission would rely on the hypothetical number of detonations and their yields. It would assume different locations for detonations and would rely on open-source information for the numbers of appropriate delivery systems.

Conclusion

The debate in India and Pakistan regarding the catastrophic consequences of a nuclear exchange has been remarkably marginalized. Anti-nuclear activists have attempted to raise public awareness, but the effectiveness of such efforts remains restricted as a result of low literacy rates and nationalist sentiment favoring nuclear-weapons programs. Greater understanding of the costs of a nuclear attack could restrain public pressure on political leaders to threaten or exercise the nuclear option and could discourage leaders from pursuing provocative and irresponsible nuclear postures.

A nuclear exchange between India and Pakistan would have severe and long-term consequences for human health, the environment, and regional and global stability. The possibility of millions of deaths, the radiation fallout, and environmental repercussions would dwarf any other global problem in the event of a nuclear exchange. Public opinion is an important force in determining whether or not nuclear war will be averted. By undertaking the proposed joint assessment of the physical, biological, social, and environmental effects of a nuclear war, New Delhi and Islamabad would demonstrate their commitment to practicing responsible nuclear stewardship. This would enhance their political standing in the international community. It also would highlight the commitment of both states to avoid nuclear catastrophe and promote regional peace and stability. The joint commission could also set a precedent for other nuclear-power states to follow in order to encourage a comprehensive public understanding of nuclear issues. The rise in public concern over the risk of nuclear war and the need for arms control would thus decelerate the intensified nuclear arms race between India and Pakistan.

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Use Environmental Diplomacy to Resolve the Sir Creek Dispute

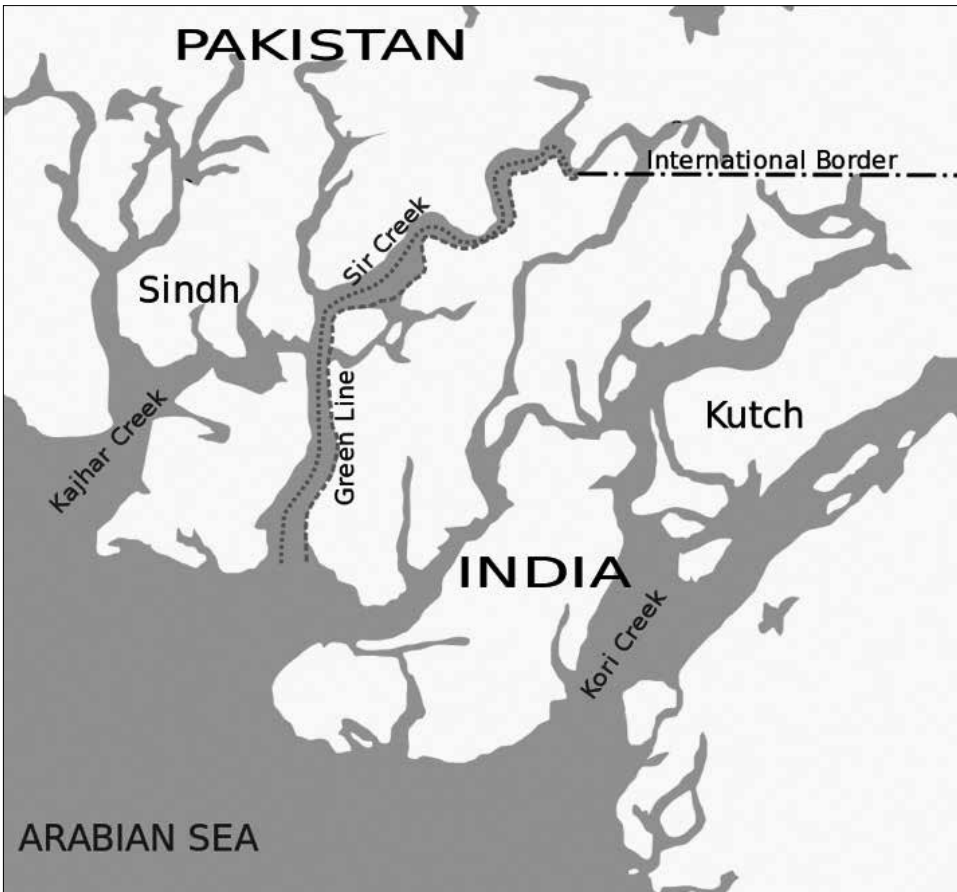
Saleem H. Ali

Introduction

The Sir Creek dispute concerns a 38-square-kilometer estuary near the ecologically significant Indus delta area south of the Rann of Kutch.^{1,2} The origins of the dispute can be traced back to the British colonial era when the princely ruler, Rao Maharaj, of the state of Kutch sparred with the government of Sindh province in 1908 regarding the collection of firewood from the creek.³ The Bombay administrative government's resolution map, which was issued in 1914, placed the boundary of the creek between both jurisdictions on the eastern side of the creek. However, the textual explanation of the map stated that the boundary occurred at the midchannel point.⁴ Thus there was a contradiction between the map and the text that was never reconciled. The figure below provides a visualization of the competing claims.

After Pakistan's and India's independence in 1947, the creek was physically noted as the border between India and Pakistan but no formal resolution of the 1914 map's ambiguity was determined. The war of 1965 between India and Pakistan over various territorial differences also involved the Kutch region. Subsequently, both countries agreed to take the matter to the International Court of Justice, which issued a ruling in 1968 favoring 90 percent of India's claim to the salt marsh (i.e., the Rann of Kutch) but excluded a mention of Sir Creek itself, thus leading to an uncertain outcome regarding its status.

This disputed region is far from the fabled valley of contention between India and Pakistan in Kashmir and thus could potentially be decoupled from the broader conflicts following the Great Partition.⁵ The area of dispute is just 6 to 7 square miles of land, but involves 250 to 300 square miles of ocean territory. The demarcation of the land border has a direct impact on the maritime boundaries of both countries, so there are territorial and maritime dimensions to this dispute. Moreover, this area not only has strategic and economic importance, but great ecological value as well. The late Indian ornithologist Salim Ali recorded more than 30,000 flamingos in this region in 1973 while conducting a survey for the Bombay Natural History Society.⁶ The numbers of birds in this area has rapidly declined as conservation efforts have taken a back seat to the politics of territorial conflict. To date, there is no mechanism for coordinating pollution management, fishing, deforestation, or any other conservation effort between India and Pakistan regarding this area.



MAP OF DISPUTED CLAIMS IN SIR CREEK: The green line is the boundary as claimed by Pakistan. The red line is the boundary as claimed by India.⁷

From 1968 to 2000, negotiations over Sir Creek stalled until both Pakistan and India signed and ratified the United Nations (U.N.) Convention on the Law of the Sea.⁸ This convention required both sides to resolve their maritime disputes by submitting their claims over maritime territories by May 2009.⁹ The failure of the signatories to reach any understanding by this time would invoke Part XV of the convention, which provides a comprehensive mechanism for dispute settlement or may also declare the unresolved maritime zones to be international waterways. In September 2006, Pakistani President Pervez Musharraf and Indian Prime Minister Manmohan Singh met in Havana, Cuba, and agreed that neutral experts should meet to conduct a joint survey of Sir Creek and the adjoining area, which would lead to clarity on demarcation perceptions between the two sides that could pave the way for a settlement.¹⁰ Yet no further progress was made as a result of internal political convulsions in both countries, including the Mumbai terrorist attacks of 2008, and ongoing insurgencies in both countries from separatist groups with mutual recriminations.

Beyond the ecological benefits of resolving the Sir Creek dispute, such a resolution could be an important first step in developing a mechanism for constructive engagement on bilateral territorial disputes between India and Pakistan and, indeed, between India and China in the Himalayas. The use of such a mechanism could then also be useful in resolving other disputes, such as the one over the Siachen glacier in the Karakoram mountains. Likewise, creating such mechanisms of engagement could also catalyze the operationalization of environmental diplomacy in South Asia.¹¹ An ecology-first approach has the potential to build trust without rattling the sensitive ethno-religious sentiments that are so prevalent in the region.

The Proposal

Thus far, Sir Creek has been primarily viewed as a maritime dispute. However, given the significance of this region and the growing concerns of climate change impacting this vital ecosystem, I propose reconfiguring this dispute as an opportunity for joint environmental conservation and management. Reframing the Sir Creek dispute as an environmental matter may help in making questions related to demarcation less biting. International mechanisms through wide-ranging environmental treaties already exist and could ensure that the transboundary nature of ecosystems like Sir Creek is respected by acrimonious states through joint conservation programs.

This dispute has an often-overlooked multilateral dimension that could provide an entry point for dispute resolution. Both countries are signatories to the U.N. Convention on Biological Diversity (CBD) as well as the Ramsar Convention on the Protection of Wetlands.^{12,13} Transboundary joint management and protection of these wetlands is part of the expected outcome of these conventions as well as the countries' obligations under the U.N. Convention on the Law of the Sea. Under the program of activities that was approved by the signatories to the CBD in 2004, India and Pakistan were mandated to "establish and strengthen by 2010/2012 transboundary protected areas, other forms of collaboration between neighboring protected areas across national boundaries and regional networks, [and] to enhance the conservation and sustainable use of biological diversity."¹⁴ Yet neither side has followed through on such an effort in spite of their international commitments.

Similarly, the Ramsar Convention also has a provision for protecting transboundary wetlands through the establishment of jointly managed sites. There are currently 234 "wetlands of international importance" listed within the Ramsar Convention that share borders with two or more countries. At this time, 20 of these areas are officially recognized as transboundary conservation areas with a shared management regime.¹⁵ Given that Pakistan has already declared the western side of Sir Creek a Ramsar wetland since 2002 as part of the Indus Delta region, India's declaration of the eastern side of the creek as a Ramsar wetland as well could pave the way for an easy, win-win dispute resolution outcome that also grants India the opportunity to decouple this dispute from broader concerns with Pakistan. It should also be noted that finding an environmentally cooperative solution on the

Pakistani side would face minimal resistance because there is already a Ramsar conservation site in Sindh province, and the area is a lower security priority for Pakistan's military establishment.

Ramsar sites grant local residents economic opportunities as well, including managed fishing. This could also create joint ecotourism opportunities on both sides of the border while relieving the economic and security stress on local fishermen who operate in an uncertain environment as a result of the current demarcation dispute. Access for scientists to this area would also allow for better sustainable-yield measurements of local fish and reed harvesting to ensure the long-term livelihoods of residents.

Such a transboundary designation through an international convention mechanism with joint management could render the disputing claims functionally moot since they would not be of any operational consequence in terms of access to either side. Both sides would have access to the creek, with joint monitoring of species demographics, ecosystem health, and scientific research commensurate with such a designation. International donor funds under the conventions might also become available for such a transboundary area management system.

One might ask why both sides have not considered Sir Creek through an environmental diplomacy lens before. The main reason is due to the fact that international environmental treaties are relegated to ministries of natural resources or environment, and, consequently, are almost entirely decoupled from security matters. The negotiators at such multilateral forums for both India and Pakistan hardly have any communication or clout with their counterparts in their respective ministries of defense. However, such a solution has the potential to resonate with security establishments as they provide a pathway for exit without losing face due to any military or operational defeat. Once the security establishment concurs with such an approach, the environmental technocrats would be only too willing to assist in a solutions-based approach to the high politics of war and peace.

Among the winners of this approach would be the disadvantaged fishing communities who are frequently caught up in the Sir Creek dispute. Positive engagement on this environmental issue could also aid in restoring trust between India and Pakistan and increase openness to other cooperative possibilities. More consequentially, the armed forces that patrol these areas on both sides might consider this as an opportunity to show true leadership and encourage their governments to foster environmental cooperation and synchronous dispute resolution.

Indeed, the military personnel who could monitor Sir Creek could still be involved in patrols but with a mandate similar to rangers or "green helmets."¹⁶ All too often the armed forces have been seen as an impediment to peace on both sides of the border. This approach provides them with an opportunity to link up with environmental interests and offer technical assistance while providing security to the region, just as the U.S. Army Corps of Engineers has played an important role in wetland management efforts, albeit with a checkered history

of successes and failures.¹⁷ The possibility that the military establishment could play a constructive, science-based role in conservation has far wider application in South Asia. Both the Indian and Pakistani armed forces have the technical capacity to assist in the implementation of conservation management plans in concert with conservationists.

Overcoming Challenges

India has thus far rejected Pakistan's attempt to internationalize the Sir Creek issue in its current form, either through arbitration or the involvement of any third party. India does so on the grounds that the issue must be resolved bilaterally in accordance with the Simla Agreement, the peace treaty that ended the 1971 India-Pakistan war.¹⁸ Nevertheless, as documented by Shaista Tabassum of Karachi University, Indian officials have, on several occasions, made statements about their willingness to consider environmental and science-based cooperation in this region to help resolve the maritime dispute.¹⁹ Similarly, Indian Admiral J. G. Nadkarni wrote:

Pollution is another area where both countries can co-operate to mutual advantage. The sea is an impartial medium, not selective about which area it will pollute. The meagre resources of each country prevent it from mounting a major assault on polluted areas, but pooling their resources and making a joint effort to keep the shores of the Arabian Sea free from pollution can result in immense benefit to both countries.²⁰

Another possibility is to regionalize (rather than internationalize) environmental cooperation in the Indus Delta through the South Asian Association for Regional Cooperation (SAARC), which has largely been dysfunctional since its inception. Since India sees SAARC as a regional rather than an international body, SAARC could play a positive role within its existing mandate of fostering environmental cooperation. Focusing on India-Pakistan environmental cooperation in the Indus Delta could be a consequential way for SAARC to revitalize its role in the region. In particular, the SAARC 14 summit meeting in April 2007 resolved to develop cross-border regional projects pertaining to four issues that affect their people's daily lives: water, energy, food, and the environment. The joint impetus of all these various agreements and the targets they set in 2007 could be used by both governments to resolve the Sir Creek dispute. The urgency of resolution could also be highlighted through SAARC since there have been growing concerns that this delta region is highly vulnerable to climate change, and coordinated adaptive strategies are hampered by the dispute and distrust.²¹

The absence of serious engagement on this small but meaningful issue has led to a governance deficit in this region exemplified by drug smuggling and human trafficking.²² All these factors converge to make a convincing and integrative case

for the resolution of the Sir Creek dispute as an environmental issue. The opening of a cooperative track between both countries could help reduce the current trust deficit between the two countries.

Conclusion

In the environmental context of wetlands management, a possibility exists for a limited technical role by external powers. Environmental diplomacy often requires some technical support mechanisms from external agents with the requisite expertise. It is notable in this regard that the United States has also ratified the Ramsar Convention. The territorial dispute between Ecuador and Peru in the Cordillera del Condor region, for example, was resolved through a conservation treaty that required similar technical support and mediation from Brazil and the United States, and successfully ended several decades of violent border conflicts.²³

Operating within a new context of environmental concerns, the timing might be propitious for another initiative to resolve the Sir Creek dispute. India's former foreign secretary, Shyam Saran, recently revealed how close both sides were to an agreement in 2006.²⁴ Notable Indian commentators are also acknowledging that this is "a dispute which begs resolution."²⁵ Pakistan also recognizes engagement on this issue and has maintained conciliatory rhetoric when engaged in diplomatic protocols.²⁶ In pursuing this proposal, environmental diplomacy provides a pragmatic way to channel national pride toward constructive ecological conservation and broader peace.

Endnotes

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Part 4

**ESTABLISH CONFIDENCE-BUILDING
MEASURES WITH CHINA**



Create a Channel for a U.S.-China Dialogue on South Asia

Yun Sun

Introduction

The real danger of an explosive conflict and potential nuclear war lingers in South Asia. Relations between India and Pakistan remain distrustful, confrontational, and highly volatile as the result of decades-long hostility. War plans are being refined on both sides — a war that could be triggered by terrorist attacks launched by Pakistan-based groups. Escalation control seems to be assumed by both sides, but the miscalculation of intentions and reactions could ignite a catastrophic nuclear war.

Despite these risks, the United States and China do not regard crisis management in South Asia as a top priority in their bilateral foreign policy agendas. Cooperation on crisis management in the past has been ad hoc. The level of attention, dialogue, and preparation devoted to the proper management of a potential crisis between India and Pakistan is highly disproportionate to the risks and stakes at hand. Therefore, the United States and China might well consider the establishment of a routine dialogue at the subcabinet level that could become a crisis-management mechanism to enhance preparedness for and the effectiveness of crisis management to prevent a nuclear disaster in South Asia.

The Problem

The nuclear arms race between India and Pakistan has accelerated in recent years. Both countries possess well over 100 warheads and credible missile-delivery systems.¹ Pakistan's rising nuclear stockpile is widely believed to be the fastest-growing in the world.² Pakistan has continued to develop tactical nuclear weapons for use on the battlefield that it threatens to deploy in the event that India implements its Cold Start doctrine.³ India has completed its nuclear triad by inducting a strategic nuclear submarine into service.⁴ India's aim is to reduce the gap between its nuclear capabilities and China's.⁵ The nuclear arms race in the region reflects the geopolitical competition between China and India and between India and Pakistan.

Generally, while there has been delicate strategic stability based on nuclear deterrence and mutual assured destruction between India and Pakistan, the most concerning triggers are speculated to be skirmishes in the disputed Kashmir region (such as the 1999 Kargil conflict) or miscalculation by Pakistani actors linked to militant groups launching terrorist attacks in India (such as the 2001

Indian Parliament attack or the 2008 Mumbai attack). In a similar future scenario, India could hold the Pakistani government responsible for such unconventional warfare and respond with a conventional attack. If Pakistan retaliates with the use of nuclear weapons to defend its territory, as it has vowed to do, the conflict could rapidly escalate into nuclear exchanges.

As a part of China's immediate periphery, the peace and stability of the subcontinent constitutes a key area for China's national security. A potential crisis between India and Pakistan, two nuclear-armed states, could have catastrophic implications for China's critical national interests. To prevent a security crisis involving conventional forces, China pursues a delicate and balanced approach between India and Pakistan. Beijing advocates for dialogue, de-escalation of tensions, and the resumption of diplomatic negotiations. However, China's ostensibly neutral position on the tactical level neither negates nor disguises a geostrategic instinct on Beijing's part to shield and protect Pakistan. This has created intrinsic inconsistencies in China's position when a crisis originates from Islamabad's tolerance or indulgence of anti-India Islamic militant groups.

There are disagreements inside the Chinese South Asia policy community regarding the appropriate role China could or should play in crisis management in South Asia. Options include playing the roles of mediator, arbitrator, and facilitator. Although China claims to be neutral in the event of a security crisis between India and Pakistan, its strategic conflicts with and long-term concerns over India, along with its traditional alignment with and support of Pakistan, inevitably undermine Beijing's credibility as a neutral and honest broker in South Asia. Nevertheless, China has an innate interest in preventing a major conflict in South Asia that has the potential of evolving into a nuclear disaster. This interest has prompted Beijing to resort to multilateral coordination, great power coordination, and bilateral engagement with both India and Pakistan to manage the crisis between the two.

Given the stakes involved in a major crisis on the subcontinent, the United States has consistently played a key crisis-management and conflict-prevention role between India and Pakistan. For example, during the 1999 Kargil crisis, President Bill Clinton directly threatened Pakistan with isolation unless it unilaterally withdrew its Northern Light Infantry forces and jihadi proxies from the heights above Kargil.⁶ The U.S. attitude is critical to both India and Pakistan's strategic calculations regarding conflict escalation and modification of their actions. Indeed, besides the stabilizing effect of nuclear deterrence in a deep crisis, proactive U.S. crisis management has been indispensable in the dilution of tension and conflict prevention in each India-Pakistan crisis since they tested nuclear weapons in 1998. While there are concerns as to whether the Trump administration will remain as engaged and proactive in South Asia as previous U.S. administrations have, there is a general expectation that the United States will be central and vital to the mediation of future crises that might arise between India and Pakistan.

Changing internal politics and bilateral relations among China, the United States, India, and Pakistan almost certainly will affect crisis management differently in the future than in the past. Washington and Beijing are more deeply invested in India and Pakistan (respectively), just as they are viewed with greater distrust in Pakistan and India (respectively). Much has changed in New Delhi. Prime Minister Narendra Modi might act very differently to provocations than Prime Ministers Manmohan Singh and A. B. Vajpayee did. The strategic personalities of the American and Chinese presidents as well as the unpredictable results of their interactions could also foreseeably bring new dynamics and uncertainties over their perspectives and approaches toward India and Pakistan.

The Proposal

Both Washington and Beijing share critical interests in crisis management and conflict prevention in South Asia. In each crisis since 1998, both countries have used mediation and shuttle diplomacy to diffuse tension. However, there are no routine and regular policy consultations between Washington and Beijing on key developments and the potential of emerging crises between India and Pakistan. In May 2012, the United States and China had their first director-general-level South Asian affairs consultation focused on regional development and Afghanistan, as a part of the fourth round of the Strategic and Economic Dialogue (S&ED).⁷ According to the Chinese Foreign Ministry's statement, a similar South Asia consultation was held again in 2013 under the fifth round of the S&ED.⁸ However, in the following three rounds, language specific to the South Asia consultation, especially on regional development, was missing from the list of deliverables. While the statements from all three rounds read that the United States and China would host the next South Asia consultation at an appropriate time, it remains unclear whether the consultation indeed took place.

What is more revealing about the lack of urgency and attention to crisis management is that the South Asia consultations were consistently listed under the category of "U.S.-China bilateral cooperation," along with counter-wildlife-trafficking and maritime protection. In comparison, issues such as Afghanistan, North Korea, and Syria are put under a different category of "regional and global challenges," which have received much more attention and time in the bilateral dialogues between Beijing and Washington. The fact that Afghanistan has been singled out as an independent issue is not surprising, and probably indicates that it is no longer treated as a part of the South Asia portfolio of the U.S.-China discussion. Indeed, as the issue that so far has generated the most concrete and productive deliverables on U.S.-China cooperation in regional security challenges, Afghanistan has received increased attention and positive reception in U.S.-China bilateral discussions.

The frequency, level, and regularity of U.S.-China dialogue on potential crisis management in South Asia is glaringly incompatible with the stakes involved

in the event of an India-Pakistan conflict. This essay proposes a senior-level (subcabinet or vice-ministerial) routine dialogue between American and Chinese officials, either annually or biannually, dedicated to preventing a potential crisis and facilitating crisis management on the subcontinent. The contents of the dialogue might include:

- Changes to the nuclear stockpile, technologies, and doctrines of India and Pakistan;
- Movements and attacks by jihadist organizations in Kashmir or elsewhere, and their security/political impact;
- Changes to conventional troop deployments and postures of India and Pakistan;
- Coordination between Washington and Beijing on the strategy and tactics of crisis management, including the distribution of labor in the event of a crisis; and
- Development of a set of crisis indicators between India and Pakistan that could serve to activate a crisis-management mechanism between the United States and China.

Under the Trump administration, the United States and China have reformed the previous S&ED, replacing it with a four-pillar construct including a Diplomatic and Security Dialogue; a Comprehensive Economic Dialogue; a Law Enforcement and Cybersecurity Dialogue; and a Social and Cultural Issues Dialogue. The first Diplomatic and Security Dialogue took place on June 21, 2017, and focused on pressing regional security challenges such as North Korea and the South China Sea. For subsequent regional consultations, adding an agenda item that is focused on South Asia is timely and imperative.

The Challenge

On the U.S. side, the biggest challenge to the development of a U.S.-China subcabinet-level dialogue on crisis management in South Asia under the Trump administration lies in the limited bandwidth of U.S. foreign policy priorities. As Trump prioritizes hotspot issues such as North Korea, Syria, and Russia, preparation for collaborative crisis management simply may not be a U.S. priority. The unfortunate catch-22 is that the administration's attention and engagement may not be devoted to crisis management in South Asia until there is an actual crisis, and by the time a crisis breaks out, an ad hoc response may be insufficient. In this context, it will be interesting to observe the results, priorities, and corresponding strategies generated by the South Asia policy review by the Trump administration. Afghanistan, unsurprisingly, will remain high on the agenda, yet the White House's encouragement for India and Pakistan to resolve the Kashmir dispute through direct dialogue could potentially open some space for U.S.-China dialogue on crisis management.

From the perspective of major power politics, Washington may not want to cede strategic space to Beijing in South Asia by pairing up with China as a co-crisis manager in relations between India and Pakistan. As China expands its economic and political influence in the region with campaigns such as the Belt and Road Initiative, the national interests of India and America are naturally aligned in many aspects. For Washington to join with Beijing as the “adult” supervisors and crisis managers between India and Pakistan inevitably would affect this long-term India-U.S. alignment. It is almost inevitable that any U.S. attempt to engage China as the peer co-manager of India and Pakistan will be met with fierce opposition by India. Such opposition could be well justified, not only because a co-crisis management arrangement would diminish India’s role and image to that of a secondary player, but also because of China’s close ties to Pakistan.

On the Chinese side, Beijing may be unwilling to bog itself down in a South Asia crisis-management mechanism with Washington. China’s balancing diplomacy between India and Pakistan is neither objective nor neutral. China is interested in strengthening cooperation with India as the two largest developing countries and as members of the Global South vis-à-vis the developed countries. However, such alignments on low-level political issues cannot override the conflicts and disagreements between China and India on high-level issues, including their territorial disputes, Tibet, and the strategic competition in the region. Beijing views India as the only regional power in South Asia with the potential capacity and ambition to compete with China for regional dominance. Washington’s support of India to counterbalance China’s emerging regional leadership role further antagonizes Beijing, convincing it of a shared aspiration and plan between Washington and New Delhi to contain China in South Asia and in the Indian Ocean.

In this context, Pakistan, rather than India, is the cornerstone of China’s South Asia policy. Regardless of its internal fragility, Pakistan remains China’s main instrument of “check and balance” against India. Beijing holds that as long as India is tied to the competition and confrontation with Pakistan as India’s primary national security threat and over the Kashmir dispute, India will not be free to target China or pursue its regional strategic ambitions. Given that a genuinely peaceful and stable relationship between India and Pakistan is desirable but improbable, and given that China’s long-term interest in South Asia is not altruistic, Beijing views an equilibrium between India and Pakistan as serving its interests. In this view, the more the balance of power tilts against Pakistan’s favor, the more unstable South Asia will become. This is not only because India might exploit Pakistan’s weakened position to its own advantage, but also because a weak Pakistan is more likely to provoke India out of its sense of vulnerability, prompting a crisis to divert its population’s attention away from domestic problems.

Beijing has a mixed attitude toward the U.S. role in security crises in South Asia. On the one hand, Beijing acknowledges that the United States and China share a common interest in the prevention of escalation and armed conflict between the

two nuclear powers. On the other hand, Beijing believes that the U.S. position is biased toward India and fails to accommodate Pakistan's legitimate concerns. Furthermore, when a security crisis arises, Beijing has a natural tendency to see Washington as the primary responsible party because of its complicated ties with both India and Pakistan. Therefore, Beijing has so far been content and eager to cede the primary crisis-manager role to Washington. China's special relationship with Pakistan can help in crisis management, but in the absence of a crisis, Washington's requests for China to put more pressure on Pakistan are often deflected because Beijing views the relationship Washington has with New Delhi as even more biased than the relationship China has with Islamabad.

A high-level dialogue with China on crisis management in South Asia may not be welcomed by Beijing as a result of uncertainties about the Trump administration and, more importantly, the nature of U.S.-China relations. The transactional mentality on the Chinese side would make Beijing appreciate the peer status that such a dialogue would confer, but not at such a high cost that Beijing would be responsible for "delivering" Pakistan in a deep crisis or conflict scenario.

Conclusion

Given the volatility of India-Pakistan relations and the stakes at hand, a subcabinet level U.S.-China dialogue on crisis management in South Asia is not only desirable but also potentially critical to mitigating tensions arising from a serious crisis between India and Pakistan. Both powers and the entire world have major stakes in the peace and stability in South Asia. Setting up a subcabinet-level channel would not imply a co-crisis-management role, which neither Beijing nor New Delhi would welcome. Instead, such a dialogue would help diplomats and technocrats to be better informed, better prepared, and better coordinated in the event of a crisis. This channel could prove to be highly valuable in preparing for potential cooperation, including the development of procedures and a coordinated strategy in the event of another serious crisis in South Asia.

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Avoid Incidents at Sea between India and China

Monish Tourangbam

Introduction

For the last half century, the India-China rivalry has played out on land as both countries consolidated their borders as independent states. Recently, this strategic competition has begun to spill into the maritime domain. India has been bolstering its conventional and nuclear sea-based deterrence,¹ modernizing its maritime forces through indigenous production and foreign acquisitions and engaging in interoperability exercises with the United States and other partners. China's expanded ambitions in the Indian Ocean have manifested in regularized deployments of conventional and nuclear submarines in the subcontinent's littorals, significant investments in infrastructure and port development, and enhanced maritime cooperation with Pakistan. The two countries have managed to avoid dangerous incidents at sea thus far, but the potential for naval friction — and even escalation — cannot be dismissed as both India and China endeavor to project power across the Indian Ocean.

Similar dangers were present during the Cold War. As the Soviet Union began deploying a “blue-water” force in the 1960s, interactions between the U.S. and Soviet navies became more and more common. More interaction led to more friction and greater potential for escalation. The list of alarming incidents grew throughout the 1960s and included collisions and near-collisions, provocative actions such as planes “buzzing” warships, and simulated attacks.²

The U.S.-Soviet Incidents at Sea Agreement (INCSEA), which entered into force in May 1972, was intended to address such incidents on the “high seas,”³ thereby reducing the risk of military escalation between the two nuclear-armed superpowers. The INCSEA agreement had no bearing on the “size, weaponry, or force structure” of their respective naval forces. Instead, the objectives were to “enhance mutual knowledge and understanding of military activities; to reduce the possibility of conflict by accident, miscalculation, or the failure of communication; and to increase stability in times of both calm and crisis.”⁴ With these objectives in mind, the United States and the Soviet Union agreed to avoid interference, simulated attacks, dangerous types of surveillance, and other hazardous naval maneuvers; to use accepted international naval signals; and to provide information about submarine exercises near the other side's naval assets. The INCSEA agreement served as an important confidence-building mechanism (CBM) because it provided the opportunity for both sides' naval officers to “effectively communicate their maneuver intentions at sea, [and] talk to each other professionally at annual review sessions.”⁵

As India and China expand their naval presence across the Indian Ocean, incidents of misperception and miscalculation over freedom of navigation and overflight with escalatory potential cannot be discounted. In this context of intensifying rivalry, the lack of a permanent India-China incidents at sea agreement with a regular consultative mechanism is cause for concern. Thus, this essay proposes an India-China INCSEA agreement modeled on the U.S.-Soviet one. The proposal revolves around the need to evolve standard operating procedures (SOPs) and CBMs for the two navies to guard against the potential for military escalation at sea.

The Proposal

I propose that India and China negotiate an incidents at sea agreement with similar objectives and scope as the U.S.-Soviet INCSEA agreement. The primary goals of a prospective India-China incidents at sea agreement would be to prevent or de-escalate any crisis at sea arising either out of an accident, deliberate action, or inadvertent miscalculation. An India-China INCSEA agreement would seek to contribute to the reciprocal understanding of each other's maritime capabilities and intentions. The agreement would utilize internationally prescribed signals⁶ or other mutually agreed-upon signals when ships are within sight of each other. The mere act of negotiating an accord would testify that both the countries intend to arrest any escalatory potential and show that neither is interested in a war despite strategic signaling to assert maritime rights and positions.⁷ An annual consultative review of the previous year's naval incidents would contribute to confidence-building, ultimately fostering a stable-deterrence relationship. It would not attempt to infringe upon weapons development or force structure, as both countries are in the midst of efforts to modernize their navies and would be unlikely to accept such constraints. Though the Indian Ocean is the likely venue of incidents with escalatory potential, the agreement would govern all India-China naval interactions on the "high seas" as redefined by the 1982 United Nations Convention on the Law of the Sea.⁸

An India-China INCSEA agreement would attempt to prevent the same types of incidents as the U.S.-Soviet agreement. It would also draw inspiration from established mechanisms such as the 1972 International Regulations for Preventing Collisions at Sea (COLREGS)⁹ and the more recent multinational Code for Unplanned Encounters at Sea (CUES) that provides a set of nonbinding "rules of the road" to prevent an escalation of tensions between different militaries at sea.¹⁰ The agreement would, however, place a special emphasis on addressing three areas of potential friction and escalation: 1) Chinese submarines in the Indian Ocean and India's maritime domain awareness (MDA) operations, 2) China's anti-access/area-denial (A2/AD) operations and India's maritime interests in the South China Sea, and 3) Indian and Chinese naval exercises. The following paragraphs assess these dangers — and the need for an INCSEA agreement to address them — in detail.

The increasing foray of Chinese submarines in the Indian Ocean has accentuated India's awareness of the weaknesses of its MDA and anti-submarine warfare (ASW) capabilities and an intention to close the gaps in these realms. This can be seen most specifically in the kind of cooperation that India is engineering with the United States, with a common interest in countering China's increasing influence in the Indian Ocean. India has invested heavily in potent maritime-patrol aircraft fleet, including the American-made P-8I.¹¹ New Delhi is also reportedly ramping up cooperation with Tokyo to help construct "an undersea network of seabed-based sensors stretching from the tip of Sumatra to Indira Point in the Bay of Bengal." If this was to become a reality, it would help augment India's ability to detect Chinese submarines approaching India's exclusive economic zone.¹² Moreover, India plans to start operating P-8Is from the Andaman and Nicobar islands, a reflection of New Delhi's elevation of the strategic importance of the Tri-Services Command stationed there. Since the Andamans are geographically close to the critical choke point of the Strait of Malacca, military infrastructure there could be geared toward bolstering India's surveillance of Chinese vessels entering the Indian Ocean.¹³ With increased surveillance comes the need for SOPs for maintaining required distances to avoid conflict by accident or interference with the formations of the other party.

As China has implemented its A2/AD maritime strategy,¹⁴ it has made advances in long-range surface-to-air missiles, anti-ship ballistic missiles, anti-ship cruise missiles, and intelligence, surveillance, and reconnaissance capabilities. These changes were dramatically expressed through the air defense identification zone that China claimed in the East China Sea beginning in 2013. China has also reportedly installed equipment on two of its fortified outposts in the Spratly Islands in the South China Sea capable of jamming communications and radar systems.¹⁵ While China's A2/AD strategy has been targeted toward the United States and its Pacific allies, India has also been augmenting military cooperation with littoral countries in the East and South China Seas. The Indian maritime security strategy for 2015 includes the South and East China Seas and the Western Pacific and its littorals as within India's secondary areas of maritime interest.¹⁶ Moreover, India has overtly supported freedom of navigation in the South China Sea and has interest in oil blocks offered by Vietnam in the South China Sea. Although crossing any Chinese threshold is still a concern, Indian analysts have been rather categorical in espousing the need for the Indian navy to pursue operations in the seas close to China in response to China's strategic ventures in India's near seas.¹⁷ Such developments increase the likelihood of close encounters and incidents at sea between the two countries, and hence the need for an agreement that would, among other things, provide for mutual sharing of information regarding each other's activities and effectively communicating intentions.

Both India and China are increasing their naval interoperability exercises across the Indo-Pacific waters. This trend underscores the need for both parties to manage maneuvers at sea and refrain from simulating attacks against both military and nonmilitary vessels. The maritime dimension of India's Act East Policy is most

significantly manifested in its naval-to-naval cooperation with Southeast Asian countries like Singapore, Vietnam, and Indonesia, including bilateral naval exercises in the South China Sea.¹⁸ This is in addition to major multilateral initiatives like the Malabar exercises among the Indian, U.S., and Japanese navies. On the other hand, the People's Liberation Army (PLA) navy has been engaging in bilateral naval exercises with the Pakistani navy, including in the Arabian Sea.¹⁹ These exercises, either held in India or China's near seas, tend to be viewed with suspicion. As such, the agreement shall provide for prior notification of maritime exercises involving either of the parties at sea.

Challenges to the Proposal

An India-China INCSEA agreement is possible only when both countries perceive the need for increased security around access to the seas, without feeding into each other's insecurities. This will be easier said than done, given the long shadow of mistrust between India and China. An unresolved border dispute and overlapping spheres of influence in southern Asia do not bode well for an INCSEA agreement. On the one hand, China's strategic engagement with Indian neighbors is viewed within India as Beijing's intention to encircle India. On the other hand, India's Act East Policy, aimed at increasing engagement with Southeast and East Asian countries, is viewed within China as India's attempt to increase its influence in China's vicinity.

Beijing could be disinclined to accord India an elevated status in the South and East China seas by signing on to an INCSEA agreement. China's perceived vulnerability in the Malacca choke point, through which most of its energy imports pass, and its intention to bypass the "Malacca dilemma" through port and infrastructure development in various Indian Ocean littoral states, has been a major point of competition in India-China relations.²⁰ Compared to the East and South China seas, China's naval capability is clearly limited in the Indian Ocean. As a result, China has been seen to use the pretext of anti-piracy, counterterrorism, and humanitarian disaster relief to justify its forays into the Indian Ocean waters.²¹ New Delhi does not view these justifications with benign intent, nor does Beijing look kindly on India's geographical advantage in the Indian Ocean and ability to exercise some control over maritime traffic there. The establishment of the Tri-Services Command in the Andaman and Nicobar islands might also be a sore point for China's far seas ambitions.²²

The evolving geopolitical and geoeconomic drivers in the region point to increased competition, but this was also the case during the Cold War and it did not preclude the U.S.-Soviet INCSEA agreement. Much depends on whether Beijing and New Delhi both seek ways to ameliorate their competition. New Delhi's emerging power alignment in the Indo-Pacific is no doubt aimed at counteracting the rise of an aggressive China, most recently seen in the reactivation of the quadrilateral initiative among India, the United States, Japan, and Australia.²³ India

in recent times has shown the intention not only to leverage its superior force structure in the Indian Ocean, but also to increase naval power projection into the western Pacific in partnership with like-minded countries. It has signed several white-shipping agreements that will enable sharing of unclassified information with other countries to help augment existing capabilities to develop MDA, and has signed a Logistics Exchange Memorandum of Agreement (LEMOA) with the United States to increase logistics capability during missions in the Indian Ocean.²⁴ India's maritime military exercises with countries in the Indo-Pacific region have certainly generated acute concern from China. For instance, during the 2017 Malabar exercises that involved the navies of India, the United States, and Japan, China reportedly sent a surveillance ship, the *Haiwang Xiang*, to monitor the trilateral exercise in the Bay of Bengal. Moreover, the Indian navy also recorded an "unusual upsurge" in the number of Chinese warships and submarines entering the Indian Ocean around the same time.²⁵

India's intention to become a net security provider in the Indian Ocean and China's ability to project a naval presence in the region to safeguard its maritime trade mean that both countries have no reason to decrease their military as well as economic footprints in the region. The Indian navy, in the words of the Chief of Naval Staff Admiral Sunil Lanba, has initiated "mission-based deployments" stretching from the Gulf of Aden to the western Pacific on an almost 24/7 basis, and plans to hold theater-level operational readiness exercises on India's western and eastern seaboard.²⁶ The Indian maritime security strategy for 2015 emphasizes the significance of improving MDA, and aims to address the twin issues of "reach" and "sustainability" of naval forces and to opt for "leapfrogging" technologies to ensure that a high percentage of assets with contemporary equipment remains capable of combating emergent threats.²⁷ According to the strategy paper,

India's growing maritime interests, across wide geographical spaces, underscores the central importance of adequate power projection in and from the seas, and for sea control capability in 'blue waters', to safeguard interests and counter threats before they can bear upon India. The primary means for this will be potent, balanced naval fleets supported by strong, integral and shore-based, maritime air power.²⁸

At the same time, China's military strategy for 2015 aims to abandon China's "traditional mentality that land outweighs sea" and attaches importance "to managing the seas and oceans and protecting maritime rights and interests." The Chinese strategy paper states that,

In line with the strategic requirement of offshore waters defense and open seas protection, the PLA Navy (PLAN) will gradually shift its focus from "offshore waters defense" to the combination of "offshore waters defense" with "open seas protection," and build a combined, multi-functional and efficient marine combat force structure. The PLAN will enhance its capabilities for strategic deterrence and counterattack,

maritime maneuvers, joint operations at sea, comprehensive defense and comprehensive support.²⁹

Hence, even a cursory examination of these two strategy papers points to the reality that capability developments are on the rise, and force posturing in terms of power projection and muscle flexing at sea will remain a challenge for peaceful and stable waters. In addition, China's utilization of merchant ships and fishing boats — a “maritime militia” — as a force multiplier during sea encounters and skirmishes is cause for Indian concern.³⁰ The plausible deniability of involvement by non-PLAN vessels by Beijing might further complicate the negotiation of an INCSEA agreement.

Why the Proposal Is Nonetheless Worth Considering

One reason why this proposal merits consideration is that, unlike the India-China boundary dispute on land, there does not seem to be any historical baggage and fundamental discord between India and China at sea. While some may argue that the absence of serious accidents and mishaps at sea suggests that an INCSEA agreement is not necessary, the counterargument is more persuasive: the best time to negotiate an agreement is before serious accidents and mishaps occur.

The enhancement of India and Chinese maritime capability and power projection can either evolve into an unfettered competition or can be ameliorated to prevent unwanted conflict or escalation. Farsighted leaders could see the wisdom in an agreement that fosters an intergovernmental consultative mechanism to prevent collisions at sea, accidents arising out of close encounters at sea, and conflicts occurring because of miscalculation and misjudgement of maneuvers at sea.

Even in the event of a crisis generated because of deliberate action, an INCSEA agreement could provide a crisis-resolution mechanism to de-escalate tensions. In lesser cases, it could be helpful in clarifying threat perceptions. A forum created by an INCSEA agreement for regular consultations could be useful to discuss threat perceptions emerging out of port calls by ships and submarines in each other's vicinity.

For instance, in 2011, India's Ministry of External Affairs (MEA) had to give an official response to an incident involving the INS *Airavat* in the South China Sea. After a news report of an alleged confrontation between an Indian naval ship and a Chinese vessel off the coast of Vietnam, the MEA had to clarify that there was no confrontation and that the Indian ship paid a friendly visit to Vietnam without flouting any rules of the right of passage as per the principles of international law.³¹ Irrespective of the exact nature of this incident, the fact that the MEA had to issue a public position is a harbinger of future “clarifications.” While Indian ships like the INS *Sahyadri* visiting East Asian and Southeast Asian coasts was projected as India's naval diplomacy to counter China's maritime expansion,³² Admiral Sunil Lanba openly questions the rationale behind China's deployment of nuclear- and

diesel-powered submarines in the IOR for anti-piracy patrols. China's port and infrastructure projects in countries neighboring India, especially the Gwadar port in Pakistan and China's first overseas military base in Djibouti, are viewed within India as "game changers" in terms of China's power projection in the Indian Ocean.³³

Although China's participation at the 2016 International Fleet Review in India — where the PLAN sent two Type 054A Jiangkai-II-class frigates — could be seen as a positive sign in terms of exploring convergences, realpolitik considerations of capability display and battle readiness presently animate such rare maritime interactions between India and China.³⁴

Conclusion

The key question raised by this essay is how much the increased offensive and defensive capabilities of the Chinese and Indian navies will result in increased friction. It is naive to expect that India and China will scale down their investments in naval capabilities, but it is not naive to think that both Asian powers would seek to avoid a war at sea or dangerous escalation resulting from accidents.

A primordial assumption in strategic analysis is that increased commercial interests require increased military capabilities to secure the former, and that commercial competition is a driver for warfare between major powers. Since the advent of nuclear weapons, however, there have been no major conventional wars between major powers. Friction between major powers can grow with or without trade, as is evident in U.S.-China and U.S.-Russia relations. The former is far safer than the latter. The commercial benefits that can be accrued from far greater commercial ties between India and China could help ameliorate friction, and most of this commerce will occur at sea. Mutual recognition of commercial opportunities might help leaders in both countries to shift from absolute positions to find some bargaining zone to conclude an agreement that prevents incidents at sea. Hence, the challenge for the two countries will remain grounded in the dilemma of managing competition and cooperation.³⁵ India and China have to find ways to advance their national interests at sea while developing cooperative and consultative mechanisms to engineer greater stability in their relations. In this context, the proposal for negotiating a prevention of incidents at sea agreement between India and China is grounded on geopolitical realities and the limitations that they impose on India and China's behavior.

Endnotes

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Clarify and Respect the Line of Actual Control

Travis Wheeler

Introduction

China and India — both rising powers and nuclear-armed states — are locked in an intensifying security dilemma. China seems to have the upper hand given its larger economy, more advanced military-modernization program, and burgeoning economic and political clout in India's neighborhood, as exemplified by the Belt and Road Initiative. Further exacerbating tensions between the two countries are countervailing strategic partnerships — China with Pakistan and India with the United States — and maritime competition in the Indian Ocean.¹

Yet, the biggest source of friction remains the ongoing dispute over the Sino-Indian frontier and the related problem of prolonged standoffs along the Line of Actual Control (LAC).² Clarifying and respecting the LAC — and, at a later date, formally resolving the boundary issue — are in the economic, political, and strategic interests of both countries. If the LAC remains contested, both sides are likely to experience squandered economic gains; disruptive, exogenous shocks to domestic politics; and strategic distraction. The most extreme consequences of a failure to clarify and respect the LAC could include an uptick in militarized crises replete with escalation dangers, and, potentially, a border war that could hamper China and India's upward trajectories in the 21st century.

Many have observed that China and India have not had a single shooting incident along the de-facto boundary — the LAC — since 1967, when the two sides faced off at Nathu La. The avoidance of kinetic exchanges along the LAC for more than half a century is a remarkable achievement, but this narrative is not reassuring given a major military confrontation at Sumdorong Chu in 1987 and prolonged standoffs at Ladakh in 2013 and 2014. The persistence of incursions along the LAC — combined with open-ended road-building and militarization on both sides of the line — are among the trends that suggest a greater potential for friction and escalation along the LAC in the future.

Chinese and Indian leaders seem increasingly cognizant of escalation dangers along the LAC, but neither side is doing enough to prevent protracted confrontations from happening, and both remain unreasonably confident in their ability to manage incidents when they do occur. At the Wuhan Summit in April 2018, Chinese President Xi Jinping and Indian Prime Minister Narendra Modi reiterated their support for a “reasonable and mutually acceptable settlement” of the boundary dispute, tasked their militaries with “strengthen[ing] existing institutional arrangements and information-sharing mechanisms to prevent incidents in border regions,” and reportedly agreed to set up a new military-to-

military hotline.³ These are welcome steps, but disturbing events along the LAC are likely to persist so long as the underlying condition — an unclarified LAC conducive to regular charges of violations — remains unaddressed. If Xi and Modi are serious about ameliorating tensions and reducing the potential for miscalculation, then clarifying and respecting the LAC — an endeavor China and India decided to undertake in 1993 and 1996,⁴ and which this essay recommends — is a precondition for success.

Sino-Indian Disputes: The Boundary and Tibet

China and India dispute the alignment of the Sino-Indian boundary in two of three sectors: the western sector (Indian-administered Kashmir and the Chinese provinces of Xinjiang and Tibet) and the eastern sector (the Indian state of Arunachal Pradesh and Tibet). In the western sector, the dispute revolves around 38,000 square kilometers known as Aksai Chin, which India claims but China administers as a result of an agreement with Pakistan in 1963.⁵ In the eastern sector, China claims 90,000 square kilometers of Indian territory, including significant areas of Arunachal Pradesh, which it refers to as “Southern Tibet.”⁶

British maps at the time of the 1947 partition of the Indian subcontinent showed the western sector as “undefined.” Indian Prime Minister Jawaharlal Nehru argued that the sector was defined “chiefly by long usage and custom.”⁷ In 1954, India published revised maps that asserted an expansive claim line — the Johnson-Ardagh Line, which the British had proposed to the Chinese in 1899 — extending the Indian frontier in the western sector to the Kunlun Mountains.⁸ In the eastern sector, India insisted that the boundary corresponded with the crest line of the eastern Himalayas and was delimited by the McMahon Line, which had been endorsed at the 1914 Simla Convention involving British, Chinese, and Tibetan representatives.⁹ These claims aside, at the time of independence India exercised little administrative control in its northeastern territories near the McMahon Line, a ground reality that Indian forces began to redress with seizure of the Buddhist enclave of Tawang from Tibetan authorities in 1951.¹⁰

As the 1950s progressed, Indian leaders became progressively concerned that their Chinese counterparts did not share their conception of the Sino-Indian frontier. When pressed, Chinese Premier Zhou Enlai placated Nehru with assurances that Chinese maps depicting large swaths of Indian territory as part of China were outdated.¹¹ Zhou also hinted that China viewed the McMahon Line as an “accomplished fact.”¹² These comments lulled Nehru into thinking there were no major disputes along the Sino-Indian boundary, but subsequent events suggested otherwise. In 1957, China announced it had constructed a highway linking Xinjiang with Tibet,¹³ reinforcing its military position in Tibet. An Indian patrol subsequently confirmed that the Chinese road traversed Aksai Chin,¹⁴ prompting India to issue a formal protest to China.¹⁵ Around the same time, China published maps depicting vast swaths of India’s northeastern frontier as Chinese territory.¹⁶

In an exchange of letters between Nehru and Zhou in 1958 and 1959, the Chinese premier emphasized the boundary's undefined nature, contended that Aksai Chin was part of China, and dismissed the McMahon Line as an illegal artifact of British imperialist aggression and subterfuge.¹⁷

Zhou's stance on the boundary dispute was grounded in China's past experience of "national humiliation" and its ideological opposition to imperialism. Similar considerations had factored into China's 1950 invasion of Tibet. Chinese leaders viewed an independent Tibet as a potential source of foreign provocations. Consolidating their control of Tibet would enhance internal security in addition to restoring full sovereignty over a former tributary state and removing a "scar" of British imperialism.¹⁸ Even after India repudiated British policy toward Tibet by explicitly recognizing Chinese sovereignty over the Himalayan region in the 1954 Panchsheel Agreement, China regarded Indian advocacy for Tibetan autonomy and against the burgeoning Chinese military presence with great suspicion.¹⁹ When Tibetans staged an armed uprising against Chinese rule in the late 1950s, Chinese leaders presumed an Indian hand in the violence. Beijing regarded New Delhi's subsequent decision to let the Dalai Lama form a government-in-exile as confirmation of their worst fears.²⁰

With tensions mounting over the Sino-Indian frontier and Tibet's status, Zhou met with Nehru in 1960 and put forth a "package proposal" for resolving the boundary issue. As part of this proposal, China pledged to relinquish its claims in the eastern sector contingent on India's willingness to renounce its claims in the western sector and cede Aksai Chin.²¹

Nehru rejected the proposal as a result of internal political opposition and legal constraints as well as a principled conviction that India should not capitulate to Chinese "cartographic aggression."²² China perceived Nehru's refusal of a swap — coupled with India's "forward policy" that entailed a combination of forward military posts and active patrolling along the disputed border²³ — as fundamentally threatening China's hold over Tibet.²⁴ In response to India's forward policy, Communist Party Chairman Mao Zedong ordered the Chinese to pursue a policy of "armed coexistence," which involved establishing localized superiority and occupying "commanding heights" to encircle and isolate Indian positions across the disputed frontier.²⁵ Skirmishes ensued throughout 1961 and 1962, setting the two Asian powers on a collision course toward war.

In October 1962, Mao concluded that "little blows" had failed to hamper India's forward policy and ordered the People's Liberation Army (PLA) to launch a "fierce and painful" attack.²⁶ In the eastern sector, the PLA crossed the McMahon Line, routed the Indian Army, and seized several disputed areas, including Tawang.²⁷ After approximately a month of fighting, China declared a unilateral cease-fire.²⁸ The PLA relocated its forces to pre-war positions on the Chinese side of the McMahon Line. In the western sector, however, the PLA did

not vacate territories captured during the war, which extended to the Karakoram Mountains and encompassed Aksai Chin.²⁹ These new Chinese positions, which spanned 320 kilometers of the western sector, came to be known as the LAC, terminology that was expanded to include the entire disputed boundary — including the middle and eastern sectors — in confidence-building measures (CBMs) negotiated in the 1990s.³⁰

For the first decade and a half that followed the 1962 conflict, China and India focused on domestic priorities, and neither country patrolled the LAC with any vigor.³¹ Both sides began patrolling the LAC more closely in the mid-1970s as China further consolidated its military position in Tibet and as India founded a China Study Group, which sanctioned a more robust military posture along the LAC.³² Military patrols — gradually reinforced by infrastructure enhancements — once again became the preferred means by which the two countries asserted their conflicting, overlapping claims. These dynamics fostered the conditions that led to the confrontation at Sumdorong Chu in 1987. By the early 1990s, the Chinese and Indian militaries were in close contact at critical locales along the LAC, and Beijing and New Delhi were more and more conscious of the need to dampen escalation prospects along the disputed boundary.

The Proposal

It is time for Beijing and New Delhi to move forward with their mutual commitment to clarify and respect the LAC, even if formal settlements of the boundary dispute and the Tibet question remain distant prospects. The first step in this proposal — delimitation — would begin with an exchange of maps, which would reveal each side's perception of the LAC's alignment in the western, middle, and eastern sectors. The delimitation phase would conclude with mutual endorsement of the status quo along the LAC and mutual recognition of the line's precise alignment. A demarcation phase would follow during which the Chinese and Indian militaries would take additional steps to demarcate and respect the LAC on the ground while strictly observing and faithfully implementing existing CBMs.

New Delhi differentiates between transgressions and incursions in defining violations of the LAC, a useful distinction for this analysis.³³ Transgressions are defined as accidental violations and are minimized as inevitable, minor incidents resulting from an undemarcated boundary and “localized” disputes.³⁴ Incursions, by contrast, are characterized as calculated violations of the LAC.³⁵ The intentionality behind such acts equates incursions with tests of resolve. The utility of a clarified, respected LAC would lie in part in the reduction of unintentional transgressions, but also, more importantly, in the avoidance of intentional incursions that generate prolonged standoffs, escalation dangers, and a host of economic, political, and strategic problems for the two countries.

Supporting Rationale

The 1987 Sumdorong Chu incident highlights the perils of protracted confrontations along the LAC. The crisis began in May 1986 when an Indian army patrol discovered that the PLA had taken over an Indian observation post in the Sumdorong Chu Valley, which is located near the Thagla Ridge north of Tawang in Arunachal Pradesh.³⁶ China insisted that the post it had occupied was north of the McMahon Line whereas India, which had manned the post since 1984, claimed the opposite.³⁷ In a bid to de-escalate the situation, India suggested it would not reclaim the post the following summer if both sides withdrew their forces.³⁸ China refused to budge, and Deng Xiaoping warned that it might be necessary to “teach India a lesson.”³⁹ The crisis intensified in March 1987 when the Indian army initiated a massive, China-centric military exercise called Operation Chequerboard and the PLA mobilized additional forces, including more than 20,000 soldiers, into Tibet.⁴⁰ Both the Soviet Union and the United States pressured the two countries to de-escalate the crisis,⁴¹ a process that began in August 1987 but remained unresolved until China and India agreed to withdraw from the valley in April 1995.⁴²

One virtue of this proposal to clarify and respect the LAC is that it envisions the effective implementation of existing CBMs and agreements rather than the arduous negotiation of new accords. A flurry of CBMs were achieved during a period of rapprochement in the 1990s that followed Sumdorong Chu and New Delhi’s decision to de-link progress in Sino-Indian relations from boundary issues. Through the 1993 Border Peace and Tranquility Agreement, China and India agreed to abjure the use of force in resolving the boundary dispute, respect the status quo along the LAC, and reduce military forces in the LAC’s vicinity on the basis of “mutual and equal security.”⁴³ In 1996, the two sides signed the Agreement on Confidence-Building Measures in the Military Field along the Line of Actual Control, in which they committed to refrain from military activities near the LAC with high escalatory potential — such as large-scale military exercises — and establish communication channels between military headquarters near the LAC.⁴⁴

China and India reached additional understandings on the boundary after the turn of the century. During Indian Prime Minister A. B. Vajpayee’s 2003 trip to China, Beijing and New Delhi decided to resume cross-border trade at Nathu La — a trading post between Tibet and India’s northeast that witnessed deadly skirmishes in 1967 — and empower special representatives with achieving an “agreed framework” to settle the dispute.⁴⁵ In 2005, the two sides negotiated political parameters and guiding principles for solving the boundary question, which called on them to devise “meaningful and mutually acceptable adjustments to their respective positions on the boundary” and to “respect and observe” the LAC pending its clarification.⁴⁶ Later that year, China and India signed yet another CBM that elucidated standard operating procedures (SOPs) for military conduct along the LAC, which was intended to reduce friction between forward patrols.⁴⁷ The Border Defense and Cooperation Agreement was concluded in 2013, which

required both countries to avoid the escalatory tactic of “tailing” the other side’s military patrols that had inadvertently crossed the LAC.⁴⁸

These CBMs have had a mixed track record. While specific measures — such as instituting SOPs that govern military interactions — may curtail escalation dangers resulting from accidental transgressions, the ongoing occurrence of protracted standoffs along the LAC suggests that the Sino-Indian CBM regime may be insufficient to prevent militarized crises and to manage escalation resulting from intentional incursions. As Manoj Joshi has recognized, “... instead of bringing down military competition, [the CBM regime] is seeking — somewhat pointlessly — to cope with it ... [CBMs] can promote restraint and reduce the risk of confrontation and war, but they cannot entirely eliminate them.”⁴⁹ Clarifying and respecting the LAC — as China and India have agreed to do numerous times — is one of the few CBMs that could diminish both the outsized burden on the CBM regime and the occurrence of protracted standoffs with escalation potential. Implementing this proposal would require the Chinese and Indian militaries to forswear the use of cross-LAC incursions as coercive tools to alter the status quo. For that reason, it could also revive interest in “mutual and equal security,” a principle enshrined in the Border Peace and Tranquility Agreement that could curb the LAC’s open-ended militarization.⁵⁰

Potential Challenges

There are several potential challenges to this proposal for both China and India.

First, this proposal is likely to contradict the strategic impulses of many in Beijing and New Delhi who are confident that the wisest course is to defer the LAC’s clarification until military advantages translate into political leverage at the negotiating table. As former Indian Foreign Secretary Shivshankar Menon has pointed out, “The fundamental reason the boundary settlement is taking so long ... is that both sides think that time is on their side, that their relative position will improve over time.”⁵¹ This thinking is misguided. Escalatory pressures — ranging from the two militaries being in more proximate, frequent contact to the ongoing development of military infrastructure and the deployment of dual-use platforms in the disputed boundary’s vicinity — are on the rise, making escalation risks more severe than in the past.⁵² Moreover, the longer a political decision to resolve the boundary dispute is deferred, the greater the risk that sustained crises resulting from cross-LAC incursions could harden political opposition to compromises in a final settlement and could cause both sides to resist negotiated outcomes that fail to deliver on maximalist demands. A final problem with the logic of deferment is that the utility of force along the LAC is likely to decline as the costs of military conflict between China and India increase, partially mitigating the negotiating advantages that either side could gain from relative power differentials.

Second, China appears loath to enshrine the status quo along the LAC because it would prefer the resolution of the boundary dispute on its terms.⁵³ Shifts in Chinese attitudes became apparent in the mid-1980s when China retracted the so-called package proposal, identified the eastern sector as the “biggest dispute,” and demanded the inclusion of Tawang in an eventual settlement.⁵⁴ Three decades after the initial signs of trouble, China’s opposition to the status quo has intensified. Beijing’s insistence on incorporating Tawang into China has torpedoed discussions between the special representatives.⁵⁵ The “pockets” of dispute along the LAC have more than doubled, from eight to 20, since 1995.⁵⁶ As these disagreements have come to the fore, China has soured on the LAC’s clarification via the exchange of maps and prefers a more limited “code of conduct,” which the Indian side has rejected.⁵⁷

Third, Beijing still views the boundary dispute through the prism of the Tibet question and is likely to forgo policies — such as delimitation and demarcation of the LAC — that could limit its options should New Delhi attempt to play the Tibet card. New Delhi has repeatedly stated that it regards Tibet as an “autonomous region of China” and promised to prohibit “anti-Chinese political activities by Tibetan elements” in India.⁵⁸ Yet, developments have heightened Chinese anxiety. The Dalai Lama declared in 2008 that Tawang was an “integral part of India,” and New Delhi facilitated his visit to the Buddhist enclave in Arunachal Pradesh the following year.⁵⁹ The Dalai Lama’s 2011 renunciation of political leadership of the Tibetan government-in-exile and the subsequent electoral victory of Lobsang Sangay — a charismatic leader who has proven willing to criticize China — perturbed Beijing.⁶⁰ Another source of potential discord in Sino-Indian relations is the impending succession of the Dalai Lama. In response to indications that Beijing might try to co-opt the succession process, the octogenarian Dalai Lama has announced he will choose his successor via “emanation,” which means the next Tibetan spiritual leader will be found outside China.⁶¹

Fourth, there is considerable evidence that Beijing conceives of the unclarified LAC as a source of coercive leverage vis-à-vis New Delhi. Chinese transgressions have been increasing for much of the past decade.⁶² Recent Chinese incursions in the western sector at Depsang (2013) and Chumar (2014) may have been initiated to compel Indian forces to dismantle new posts near the LAC.⁶³ Pressuring New Delhi to support a Beijing-backed freeze of military infrastructure along the disputed boundary — an agreement that would have entrenched Chinese advantages — may have been an additional rationale for Chinese actions in 2013.⁶⁴ Close observers have concurred that Chinese interests lie in maintaining coercive leverage over India and “confin[ing] Indian strategic attention” to the disputed boundary.⁶⁵

Finally, Indian security managers might oppose proposals that could be perceived as jeopardizing their ongoing efforts to mitigate China’s military advantages along the LAC. In response to Chinese military infrastructure projects beginning in the 1990s, New Delhi sanctioned in 2006 a buildup of “strategic roads” near the contested boundary.⁶⁶ In the ensuing years, India’s Cabinet Committee on

Security authorized an upgrade of India's military posture along the LAC to include the formation of a China-centric strike corps and two new infantry divisions in Arunachal Pradesh, the construction of advanced landing grounds, and the stationing of Brahmos cruise missiles.⁶⁷ While India has done much to reduce power asymmetries along the LAC in the past decade or more, China appears to maintain the overall advantage, especially in terms of its military logistics network.⁶⁸ Indian leaders may be loath to clarify and respect the LAC so long as such differentials persist.

Potential Benefits

China and India have a mutual interest in avoiding militarized crises or, at the extreme end, a second border war that could jeopardize economic growth, disrupt domestic politics, and engender negative strategic outcomes for both countries. Implementing this proposal could remove one of the persistent sources of bilateral tensions and a major potential catalyst of armed conflict — protracted confrontations along the LAC — with significant economic, political, and strategic benefits for both countries.

First, the Chinese and Indian economies could profit from stronger linkages, but tensions along the LAC and over other disputed territories have sabotaged repeated attempts to enhance the economic side of the relationship. As a result of the 2017 Doklam standoff at the Bhutanese-Chinese-Indian trijunction, Chinese foreign direct investment in India declined, with potential negative repercussions for the latter's manufacturing sector.⁶⁹ Cross-boundary trade at Nathu La was also disrupted during Doklam.⁷⁰ Modi and Xi made an effort to surmount these barriers at the Wuhan Summit, with India seeking to reduce its trade deficit with China and China seeking new outlets — including greater access to the Indian market — to alleviate economic headwinds.⁷¹ The 2019 parliamentary elections in India may have further incentivized Modi to reach an accommodation at Wuhan to divert attention from the middling performance of the Indian economy under his watch.⁷²

Second, stabilizing the LAC could create political benefits for Chinese and Indian leaders because such military confrontations impose real costs on their standing in domestic politics. China under Xi has undertaken various actions to bolster its strategic position in outstanding territorial disputes, moves that Xi regards as central to his personal legitimacy and the Communist Party's political authority.⁷³ Xi was reportedly eager to resolve Doklam because he worried it could undermine his legitimacy in advance of the 19th Party Congress.⁷⁴ Moreover, new scholarship indicates that the Chinese public harbors hawkish attitudes on foreign policy, meaning domestic unrest is one possible outcome of an unsatisfactory military confrontation with a perceived weaker power such as India.⁷⁵ Another related trend is the growing willingness of retired PLA figures to express their opposition to territorial concessions in public fora.⁷⁶ These internal pressures help explain China's advancing nationalistic narratives and publication

of provocative warnings in state-controlled media during periods of aggravated threat perceptions, as occurred during Doklam.⁷⁷ In India, skirmishes along the Sino-Indian frontier have low salience as an election issue, but extended showdowns have produced electoral effects and influenced elite debates and political jockeying at the parliamentary level.⁷⁸

Third, both China and India could reap strategic rewards from greater stability along the LAC. Historically, three perceived vulnerabilities — domestic unrest,⁷⁹ economic modernization, and challenges by the United States — have dominated the formulation of Chinese foreign policy. A genuine appraisal of these core threats has galvanized China's pursuit of improved relations with its neighbors. By nurturing positive relations with powerful states on its periphery, Beijing has been able to reduce its overall strategic exposure, refocus on true foreign-policy priorities, and generate “room for maneuver” during perilous moments, such as the immediate aftermath of the Soviet Union's collapse.⁸⁰ Sino-Indian relations have often flourished under these conditions, which have coincided with progress on the boundary dispute.⁸¹

China's assessment of the broader strategic environment — one in which it faces international opposition over the South China Sea and uncertainty with respect to its economy and relations with the United States — could cause it once again to deprioritize its disputes with India and reach further accommodations on the boundary.⁸² Such a shift could also attenuate Indian incentives for forging a well-functioning strategic partnership with the United States, removing from the board a major strategic challenge and potential barrier to China's rise.⁸³ For New Delhi, the strategic dividends of a clarified, respected LAC could be manifold and include a continued emphasis on economic growth, a defense budget with more funding for maritime capabilities, and preservation of its cherished strategic autonomy.

Conclusion

Chinese and Indian leaders appear overly confident in their ability to manage occasional flare-ups along the LAC.⁸⁴ In reality, all militarized crises have an element of unpredictability over escalation control. Preventing a prolonged incursion along the LAC from escalating into an armed clash may be especially difficult if China and India are in the midst of a period of heightened tensions — as was the case in the years leading up to the Doklam standoff.⁸⁵ Sidestepping escalation could also be challenging in circumstances where leaders fear they will incur high costs — either in terms of domestic politics or international reputation — for their failure to demonstrate sufficient resolve, dynamics to which China and India appear increasingly susceptible as the two compete for influence and power in the 21st century.

As China and India negotiated the Border Peace and Tranquility Agreement and subsequent CBMs in the 1990s, there was a mutual recognition that the LAC

was the “basis of the peace.”⁸⁶ Such a recognition is needed today. Clarifying and respecting the LAC would help ward off devastating conflict between China and India, inoculate the bilateral relationship from LAC-related disruptions, and facilitate economic, political, and strategic imperatives of both countries. It is therefore an “off ramp” worth taking.

Endnotes

1. For a variety of perspectives on these evolving strategic dynamics, see Sameer Lalwani, Usha Sahay, and Travis Wheeler, eds., “Southern (Dis)Comfort” series, War on the Rocks, accessed December 1, 2018, <https://warontherocks.com/category/special-series/southern-discomfort/>.
2. Manoj Joshi, “The Wuhan Summit and the India-China Border Dispute,” ORF Special Report (New Delhi: Observer Research Foundation, June 2018), 2 and 14.
3. Ministry of External Affairs, Government of India, “India-China Informal Summit at Wuhan,” April 28, 2018, accessed December 1, 2018, https://mea.gov.in/press-releases.htm?dtl/29853/IndiaChina_Informal_Summit_at_Wuhan; and Frank O’Donnell, “Stabilizing Sino-Indian Security Relations: Managing Strategic Rivalry after Doklam” (Beijing: Carnegie-Tsinghua Center for Global Policy, 2018).
4. In CBMs signed in 1993 and 1996, respectively, China and India recognized the entire disputed frontier as the LAC in addition to pledging to respect the LAC, reduce its militarization, and clarify its alignment. For an accounting of these agreements, see Susan L. Shirk, “One-Sided Rivalry: China’s Perceptions and Policies toward India,” in *The India-China Relationship: What the United States Needs to Know*, ed. Francine R. Frankel and Harry Harding (New York: Columbia University Press, 2004), 81.
5. John W. Garver, *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century* (Seattle: University of Seattle Press, 2001), 79.
6. Ibid. There is some disagreement regarding the extent of Chinese claims in the eastern sector. For a full discussion of these discrepancies, see Shyam Saran, *How India Sees the World: Kautilya to the 21st Century* (New Delhi: Juggernaut, 2017), 124; and Jeff M. Smith, *Cold Peace: China-India Rivalry in the Twenty-First Century* (Lanham: Lexington Books, 2014), 26-28, Kindle.
7. Srinath Raghavan, *War and Peace in Modern India* (Ranikhet: Permanent Black, 2010), 228-229 and 235.
8. Saran, *How India Sees the World*, 125-126.
9. Garver, *Protracted Contest*, 79; and Raghavan, *War and Peace in Modern India*, 229 and 235.
10. Smith, *Cold Peace*, 76-77.
11. Raghavan, *War and Peace in Modern India*, 243.
12. Zhou was referring solely to the part of the McMahon Line that covered the Sino-Burmese

boundary, but Nehru appears to have interpreted his statement to apply to the McMahon Line as a whole. See Raghavan, *War and Peace in Modern India*, 245.

13. Ibid.

14. Ibid., 247.

15. Saran, *How India Sees the World*, 132.

16. Raghavan, *War and Peace in Modern India*, 246.

17. Ibid., 248.

18. Garver, *Protracted Contest*, 33-36; and Raghavan, *War and Peace in Modern India*, 237.

19. Garver, *Protracted Contest*, 43-53.

20. Smith, *Cold Peace*, 86.

21. Sumit Ganguly, "India and China: Border Issues, Domestic Integration, and International Security," in *The India-China Relationship: What the United States Needs to Know*, ed. Francine R. Frankel and Harry Harding (New York: Columbia University Press, 2004), 112.

22. Raghavan, *War and Peace in Modern India*, 262.

23. The policy goal of Nehru's forward policy was to improve Indian awareness of the burgeoning Chinese presence near contested areas as well as to deter Chinese forces from advancing closer to their claim lines. Guidance issued by the prime minister and his advisors in November 1961 called for the "effective occupation of the whole frontier," but instructed the Indian Army to avoid clashes except in self-defense. For an in-depth discussion of the "forward policy," see Raghavan, *War and Peace in Modern India*, 275-76 and 282-83.

24. Reflecting on the 1962 Sino-Indian War, Mao Zedong reportedly acknowledged, "The main problem [in Indian-Chinese relations] is not the problem of the McMahon Line, but the Tibet question." This interpretation stemmed, in part, from Mao's belief that India had embraced an "imperialist strategy" of the British and sought to maintain Tibet as a buffer state. See Garver, *Protracted Contest*, 59.

25. Raghavan, *War and Peace in Modern India*, 285-87 and 292-98.

26. Ibid., 298-99.

27. Saran, *How India Sees the World*, 130-31.

28. Ibid.

29. Pravin Sawhney and Ghazala Wahab, *Dragon on Our Doorstep: Managing China Through Military Power* (New Delhi: Aleph, 2017), 41.

30. For an interesting exploration of differing Chinese and Indian perspectives on the phraseology and legal significance of the Line of Actual Control (and how these perspectives played out in negotiations over bilateral CBMs), see Shivshankar Menon, *Choices: Inside the Making of India's Foreign Policy* (Washington, DC: Brookings Institution Press, 2016), 13-14 and 18-19.

31. Menon, *Choices*, 13; and Joshi, “The Wuhan Summit and the India-China Border Dispute,” 10.
32. Menon, *Choices*, 14; and Joshi, “The Wuhan Summit and the India-China Border Dispute,” 11.
33. China does not report on Indian transgressions or incursions along the LAC.
34. Fayaz Bukhari, “Chinese Troops Camping in ‘Indian Territory’: Police,” *Reuters*, April 20, 2013, accessed November 10, 2018, <https://www.reuters.com/article/us-india-china-idUSBRE93J09620130420>; and Gardiner Harris and Edward Wong, “Border Dispute between China and India Persists,” *New York Times*, May 2, 2013, accessed October 1, 2018, <https://www.nytimes.com/2013/05/03/world/asia/where-china-meets-india-push-comes-to-shove.html>.
35. Smith, *Cold Peace*, 46.
36. Sushant Singh, “Why 2017 Is Not 1987,” *The Indian Express*, August 4, 2017, accessed November 30, 2018, <https://indianexpress.com/article/opinion/columns/doklam-standoff-india-china-army-troops-war-bhutan-4781309/>; and Garver, *Protracted Contest*, 97.
37. V. Natarajan, “The Sumdorong Chu Incident,” *Bharat Rakshak*, October 12, 2006, accessed November 30, 2018, <https://www.bharat-rakshak.com/ARMY/history/siachen/286-Sum-dorong-Incident.html>. For more on the origins of the disagreement over Sumdorong Chu’s location with respect to the McMahon Line, see Menon, *Choices*, 15.
38. Singh, “Why 2017 Is Not 1987.”
39. *Ibid.*
40. Garver, *Protracted Contest*, 97.
41. *Ibid.*
42. V. Natarajan, “The Sumdorong Chu Incident.”
43. Susan L. Shirk, “One-Sided Rivalry,” in *The India-China Relationship*, 81; and Joshi, “The Wuhan Summit and the India-China Border Dispute,” 4. For a detailed discussion of the Border Peace and Tranquility Agreement (1993), see Menon, *Choices*, 18-23.
44. Shirk, “One-Sided Rivalry,” in *The India-China Relationship*, 81.
45. Smith, *Cold Peace*, 36.
46. Ministry of External Affairs, Government of India, *Agreement between the Government of the Republic of India and the Government of the People’s Republic of China on the Political Parameters and Guiding Principles for the Settlement of the India-China Boundary Question*, April 11, 2005, accessed November 27, 2018, <https://goo.gl/kgH8Pd>.
47. Joshi, “The Wuhan Summit and the India-China Border Dispute,” 5.
48. *Ibid.*, 7.
49. *Ibid.*, 14.
50. For more on the concept of “mutual and equal security” in the Border Peace and Tranquility Agreement (1993), see Menon, *Choices*, 20 and 25.

51. Menon, *Choices*, 30.
52. For a comprehensive treatment of rising escalation dangers between China and India, see Yogesh Joshi and Frank O'Donnell, *India and Nuclear Asia: Forces, Doctrine, and Dangers* (Washington, DC: Georgetown University Press, 2019), 91-103.
53. Indian diplomats have concluded that the status quo along the LAC — plus minor adjustments — would be an appropriate basis for an eventual settlement, but concede that such a deal is improbable. See Saran, *How India Sees the World*, 144.
54. Analysts have posited varied explanations for the expansion of Chinese claims in the eastern sector, including their emergence at the time of the Sumdorong Chu incident. The most convincing is that the “package deal” was no longer perceived as being in Beijing’s strategic interests because its position in Tibet depended more on incorporating Tawang into China than on accessing the region via the Xinjiang-Tibet Highway. See Garver, *Protracted Contest*, 104-106; and Saran, *How India Sees the World*, 140.
55. Smith, *Cold Peace*, 39 and 47.
56. Among the “pockets of dispute” in 1995 were Demchok and Trig Heights (western sector); Barahoti (middle sector); and Asaphila, Chantze, Longju, Namka Chu, and Sumdorong Chu (western sector). See Sawhney and Wahab, *Dragon on Our Doorstep*, 45. Locales that have been added to the list of disputed areas include Chumar, Depsang Bulge, Dumchele, Kongka La, Mount Sajun, Pangong Tso, and Spanggur Gap (western sector); Kaurik, Pulan Sunda, and Shipki La (middle sector); and Dichu and Yangste (eastern sector). See Joshi, “The Wuhan Summit and the India-China Border Dispute,” 3.
57. Menon, *Choices*, 22; and Ananth Krishnan, “China Cool on LAC Clarification, Wants Border Code of Conduct,” *India Today*, June 4, 2015, accessed December 1, 2018, <https://www.indiatoday.in/world/china/story/china-lac-narendra-modi-pok-south-china-sea-karakoram-highway-255522-2015-06-04>.
58. Cite Garver.
59. Smith, *Cold Peace*, 45 and 77.
60. *Ibid.*, 100-101.
61. Most analysts believe the Dalai Lama’s success will be found in Tawang. See *Ibid.*, 104-106.
62. Alyssa Ayres, “China’s Mixed Messages To India,” *Forbes*, September 17, 2014, accessed October 5, 2018, <https://www.forbes.com/sites/alyssaayres/2014/09/17/chinas-mixed-messages-to-india/>; and “Chinese Incursions into India Rose in 2017: Government Data,” *The Times of India*, February 5, 2018, accessed November 10, 2018, <https://timesofindia.indiatimes.com/india/chinese-incursions-into-india-rose-in-2017-govt-data/articleshow/62793362.cms>.
63. Jeff M. Smith, “Crossing the Line at Odd Times: China-India Border Disputes,” *Foreign Policy*, October 16, 2014, accessed December 3, 2018, <https://foreignpolicy.com/2014/10/16/crossing-the-line-at-odd-times-china-india-border-disputes/>.
64. Smith, *Cold Peace*, 49-50.
65. *Ibid.*, 58.

66. Ibid., 40.
67. Ibid., 41; and O'Donnell, "Stabilizing Sino-Indian Security Relations," 6 and 10.
68. O'Donnell, "Stabilizing Sino-Indian Security Relations," 13 and 14; and Iskander Rehman, "Hard Men in a Hard Environment: Indian Special Operators along the Border with China," War on the Rocks, January 25, 2017, accessed October 1, 2018, <https://warontherocks.com/2017/01/hard-men-in-a-hard-environment-indian-special-operators-along-the-border-with-china/m>.
69. See Sameer Lalwani's insights in Joel Wuthnow et al., "One Year after They Almost Went to War, Can China and India Get Along?," *ChinaFile*, June 14, 2018, accessed December 4, 2018, <http://www.chinafile.com/conversation/one-year-after-they-almost-went-war-can-china-and-india-get-along>.
70. "India-China Border Trade via Nathu La Resumes," *The Times of India*, May 1, 2018, accessed December 4, 2018, <https://timesofindia.indiatimes.com/business/india-business/india-china-border-trade-via-nathu-la-resumes/articleshow/63991783.cms>.
71. Ralph Jennings, "China Eyes Improved India Ties in Case of Sino-U.S. Trade War," *Forbes*, April 3, 2018, accessed January 11, 2019, <https://www.forbes.com/sites/ralphjennings/2018/04/03/china-moves-to-reconcile-with-india-amid-threat-of-sino-u-s-trade-war/#621f117e5896>.
72. See Sameer Lalwani and Anubhav Gupta's insights in Wuthnow et al., "One Year after They Almost Went to War, Can China and India Get Along?"
73. See Oriana Skylar Mastro's insights in "One Year After They Almost Went to War, Can China and India Get Along?"
74. Tanvi Madan, "Doklam Standoff: The Takeaways for India," Brookings Institution, September 4, 2017, accessed December 4, 2018, <https://www.brookings.edu/opinions/doklam-standoff-the-takeaways-for-india/>.
75. Jessica Chen Weiss, "How Hawkish Is the Chinese Public? Another Look at 'Rising Nationalism' and Chinese Foreign Policy" (abstract), *Journal of Contemporary China*, November 27, 2018, accessed December 4, 2018, <https://papers.ssrn.com/abstract=3265588>; and Edward Wong, "Q. and A.: Jessica Chen Weiss on Nationalism in Chinese Politics," Sinosphere Blog, September 24, 2015, accessed December 4, 2018, <https://sinosphere.blogs.nytimes.com/2015/09/24/china-nationalism-jessica-chen-weiss/>.
76. Garver, *Protracted Contest*, 107-108; and Smith, *Cold Peace*, 62.
77. Oriana Skylar Mastro and Arzan Tarapore, "Countering Chinese Coercion: The Case of Doklam," War on the Rocks, August 29, 2017, accessed December 4, 2018, <https://warontherocks.com/2017/08/countering-chinese-coercion-the-case-of-doklam/>.
78. Vipin Narang and Paul Staniland, "Democratic Accountability and Foreign Security Policy: Theory and Evidence from India," *Security Studies* 27, no. 3 (July 2018): 18-19; and Harris and Wong, "Border Dispute between China and India Persists."
79. The internal turmoil of the Great Leap Forward caused Chinese leaders to invoke the "Three Reconciliations and One Reduction," which envisioned better relations with India, the Soviet Union, and the United States in addition to curtailing financial support for revolutions abroad. See Raghavan, *War and Peace in Modern India*, 284; and Amrita Jash, "Mao Zedong's 'Art of War':

Perception of Opportunity versus Perception of Threat,” Manekshaw Paper (New Delhi: Centre for Land Warfare Studies, 2018).

80. Chinese leaders’ fears of potential U.S. coercion were heightened during this period and contributed to the promulgation of the Twenty-Four-Character Strategy in which Deng offered the following advice to his contemporaries: “Observe calmly; secure our position; cope with affairs calmly; hide our capacities and bide our time; [and] be good at maintaining a low profile.” See Menon, *Choices*, 8 and 17-18.

81. China ended support for insurgencies in India’s northeast in the late 1970s and resuscitated the “package proposal” in 1980 as part of a broader effort to forge an international environment conducive to economic growth. See Garver, *Protracted Contest*, 94 and 102.

82. Even Xi’s China has proven willing to recalibrate its foreign policy when confronted by international opposition. The Wuhan Summit with India and agreements with Japan to pursue economic cooperation — including via BRI — and shelve territorial disputes in the East China Sea are two salient examples.

83. For a Chinese analyst’s perspective on Chinese threat perceptions regarding the burgeoning Indo-U.S. strategic partnership, see Xiaoping Yang, “China’s Perceptions of India as a Nuclear Weapons Power,” Carnegie Endowment for International Peace, June 30, 2016, accessed January 14, 2019, <http://carnegieendowment.org/2016/06/30/china-s-perceptions-of-india-as-nuclear-weapons-power-pub-63970>.

84. For an Indian perspective on this issue, see Menon, *Choices*, 22.

85. For a detailed examination of such contingencies, see Daniel S. Markey, “Armed Confrontation between China and India,” Contingency Planning Memorandum No. 27 (New York: Council on Foreign Relations, November 2015), <https://www.cfr.org/report/armed-confrontation-between-china-and-india>.

86. Menon, *Choices*, 22.

Part 5

INCREASE TRANSPARENCY



Join the Comprehensive Test Ban Treaty's International Monitoring System

Sylvia Mishra and Sarah Bidgood

Introduction

China, India, and Pakistan are expanding and modernizing their nuclear arsenals.¹ Historical tensions, unresolved border disputes, and high levels of mistrust are among the factors behind their strategic modernization programs. The current, brittle security environment in southern Asia makes it difficult for these countries to engage in bilateral nuclear confidence-building measures (CBMs). In this context, cooperation with a multilateral organization focused on nuclear nonproliferation and disarmament could be a useful precursor to more substantive steps to build strategic trust.

The verifiable Comprehensive Nuclear-Test-Ban Treaty (CTBT) was opened for signature on September 24, 1996, with the objective of halting all nuclear-weapon-test explosions or any other nuclear explosion. Twenty-one years after its adoption by the United Nations (U.N.) General Assembly, the CTBT has yet to enter into force. Eight states — the United States, China, India, Pakistan, Egypt, Iran, Israel, and North Korea (commonly referred to as Annex 2 countries) — must join the Treaty before it can take effect.² Although China signed the CTBT in 1996, it never ratified it. Beijing has instead adopted a position that it will do so only once the United States ratifies the CTBT.³ India and Pakistan conducted nuclear tests in May 1998 and to this day have not signed or ratified the CTBT. Instead, they have upheld unilateral moratoria on nuclear testing and have adhered to the basic stipulations and spirit of the Treaty.⁴ There is no evident incentive for either country to proceed with ratification. It appears that India's signature of the CTBT is contingent on ratification by the United States and China.⁵ Pakistan, meanwhile, has linked its signature and ratification of the Treaty to India's ratification.⁶ This approach of holding the signature and ratification of the CTBT hostage to that of other Annex 2 countries has made the Treaty's entry into force extremely challenging.

Despite the lack of momentum for entry into force, the CTBT does provide tangible value to the international community. The CTBT's International Monitoring System (IMS) network consists of 337 monitoring facilities and forms the basis of the CTBT's global monitoring regime.⁷ This network provides real-time monitoring and data processing of geophysical events to identify nuclear explosions anywhere in the world. For example, the network has provided data on North Korea's nuclear tests and increases the difficulty for states to carry out covert, low-yield nuclear tests without being detected.

Unlike India and Pakistan, China is already engaging with the CTBT Organization (CTBTO) by participating in the IMS network. It hosts 11 IMS stations and regularly sends data to the CTBTO. It also recently certified one of its IMS facilities, indicating that it has met the CTBTO's technical specifications to be part of the IMS and can transmit data to the International Data Centre in Vienna.⁸ India and Pakistan might similarly demonstrate their commitment to the CTBTO's mission by contributing to the CTBT's global monitoring network. This would be a worthwhile and realistic step for both countries as it would promote transparency in confirming India and Pakistan's nontesting to each other, could not be construed as undermining either country's national security interests, and would signal both countries' willingness to demonstrate leadership in halting nuclear testing even in the absence of ratification.

The Proposal

This essay proposes that India and Pakistan build IMS facilities on their territories as a CBM and sign of "good faith" toward promoting the objectives of the CTBT, pending its entry into force. Establishing IMS facilities in India and Pakistan would constitute a way for both countries to grant one another assurances that their self-declared moratoria on nuclear testing are being upheld and will not be evaded by extremely low-yield testing. Furthermore, both countries could derive technical benefits from cooperating with the CTBTO and the Provision Technical Secretariat, the body responsible for assisting the Treaty's Preparatory Commission in establishing the IMS. Annex 1 of the CTBT lists two IMS stations at Rahimyar Khan (Infrasound Station) and Pari (Primary Seismic Station) in Pakistan, but construction has yet to begin on either facility.⁹ Pakistan also has yet to sign any facilities agreements with the CTBTO, which serve as formal commitments to construct and certify an IMS station on its territory.¹⁰

India's engagement with the CTBTO has also been minimal. India objected to having its national stations listed in this Annex 1 after it decided not to sign the Treaty. With the passage of time, India's intention not to become an original signatory has been clarified. Nevertheless, New Delhi could now demonstrate its support for the Treaty's objectives by contributing to the monitoring network and buttressing its status as a responsible nuclear power. As CTBTO Executive Secretary Lassina Zerbo noted in 2015, "For all of its efforts in galvanizing the creation of an effective international verification system, India is currently unable to derive either the political or the technical benefits from it."¹¹ In this light, India should consider building CTBTO-certified monitoring stations on its territory, thereby bolstering its nonproliferation credentials and leadership in a global network comprising 89 countries.¹² The same holds true for Pakistan, which seeks to improve its image as a responsible nuclear-armed state but continues to block negotiations on the Fissile Material Cut-off Treaty.

To implement the first steps in establishing IMS facilities, India could proceed with the installation of the four monitoring stations that were originally planned

for placement on its territory.¹³ If India took this step, it might spur Pakistan to fast-track the process of finalizing the planned IMS stations within its own territory and signing the requisite facilities agreements. Conversely, Pakistan could take the lead without waiting for India, thereby reaffirming its moratorium on nuclear testing while challenging New Delhi to follow suit.

Both India and Pakistan have displayed a willingness to consider and adhere to military and nonmilitary CBMs to enhance stability despite their deep-seated rivalry and political differences. Efforts to normalize relations over nuclear issues were undertaken even before the 1998 tests. In 1988, for example, both India and Pakistan signed the Agreement on the Prohibition of Attack against Nuclear Installations and Facilities, whose stated goal was that both state parties would refrain from “undertaking, encouraging or participating in, directly or indirectly, any action aimed at causing the destruction of, or damage to, any nuclear installation or facility in the other country.”¹⁴ Pursuant to the agreement, India and Pakistan have exchanged lists of their nuclear installations and facilities since 1992. Both countries similarly adopted several other nuclear CBMs, including the Agreement on Pre-Notification of Flight Testing of Ballistic Missiles in 2005 and the Agreement on Reducing the Risks from Accidents Relating to Nuclear Weapons in 2007.¹⁵

These agreements demonstrate that India and Pakistan do recognize the need for CBMs, but both countries struggle to commit to bilateral dispute resolution. Instead, both countries have taken limited steps, usually after crises, to reduce escalating tensions. As such, engaging with an existing multilateral monitoring regime could serve as an indirect CBM between India and Pakistan, as the establishment of IMS stations would reaffirm both countries’ commitments to their unilateral testing moratoria.

Rationale

At a time when some U.S. senators are seeking to cut funding for the CTBTO, India and Pakistan’s engagement with the organization could send an important signal.¹⁶ It would reinforce Indian and Pakistani commitments to refrain from additional testing. It would also improve the CTBTO’s technical capabilities to detect clandestine, low-yield testing in South Asia and the broader region, including China, Central Asia, and the Middle East. This step could also provide additional, societal benefits to India and Pakistan as data derived from IMS facilities are utilized in monitoring earthquakes and issuing early tsunami warnings.¹⁷

It can also be argued that India’s ongoing efforts to gain support for its membership in the Nuclear Suppliers Group (NSG) and obtain a permanent seat on the U.N. Security Council could be advanced if leaders in New Delhi were to provide tangible indications of their support for the CTBT and its monitoring system¹⁸ Considering that Pakistan has also applied for NSG membership and is an observer to the Preparatory Commission of the CTBTO, such a move by India could be a powerful

impetus for Islamabad to respond in kind by establishing its own IMS facilities on its territory and to commit to supporting the objectives of the CTBT.

In the view of Feroz Khan, a noted scholar on Pakistani nuclear issues, the construction of IMS facilities could constitute a powerful CBM in regions that are entwined in an enduring rivalry.¹⁹ Similarly, Michael Krepon argues that, by setting up IMS stations, India and Pakistan could send positive messages that they are responsible stewards of their nuclear weapons and that both countries see value in the CTBT, even though they are not willing to sign it.²⁰ Perhaps most importantly, this step could reconfirm both countries' commitment to refrain from testing nuclear weapons, which is vital both to maintaining regional stability and strengthening the global nonproliferation regime.

Challenges to the Proposal

India is dissatisfied with the CTBT's language as it currently exists and has argued that the CTBT is not truly comprehensive because it does not prohibit "sub-critical tests." In this way, India views the CTBT as a nonproliferation measure rather than a true disarmament measure.²¹ Additionally, New Delhi believes the CTBT's entry-into-force clause, which stipulates that the 44 countries that participated in the Conference on Disarmament and "possesse[d] nuclear research or nuclear power reactors" must ratify the Treaty before it can become operational, is an infringement on its national sovereignty.²² This stance is rooted in the view that the provisions of Article XIV of the CTBT are a violation of the 1968 Geneva Convention on the Law of the Treaties. According to that Convention, a treaty cannot bind nations that are not party to it. In India's view, the CTBT imposed obligations on it and denied its "right of voluntary consent in adherence to an international treaty."²³ On this basis, experts in India argue that the CTBT will continue to remain an elusive goal as long as the Treaty is just an instrument of nonproliferation rather than a step toward abolishing nuclear weapons entirely.

Since Pakistan's signature on the CTBT likely hinges on India's signature, it is similarly unlikely that Islamabad would undertake any positive steps toward the CTBT or the IMS network unilaterally. Nevertheless, there are some indications that Pakistan's position on the Treaty might be more flexible than India's. Although Pakistan echoed India's sentiments regarding the failure to link the CTBT with nuclear disarmament during the Treaty's negotiation, it nevertheless voted in favor of its adoption in the U.N. General Assembly in 1996.²⁴ Further, Pakistan does not appear to have doubts regarding the CTBT's verifiability. If Pakistan and the CTBTO could conclude a bilateral agreement to enable the Preparatory Commission to begin IMS construction activities, irrespective of Pakistan's Treaty status, it might put India on the defensive to respond. However, Pakistan's signature on the CTBT remains dependent on that of India's.²⁵ Moreover, there is hardly any public debate regarding the CTBT in Pakistan, and its engagement with the CTBTO is marginal.

Benefits

In spite of these potential challenges to the building of IMS facilities in India and Pakistan, there are a number of practical reasons why this proposal might nevertheless be embraced by national leaders in both countries. Perhaps most significantly, becoming part of the CTBTO's IMS network is quite different from signing the CTBT. Taking one step does not oblige either state to take more meaningful steps. On this basis, establishing new IMS facilities could be defended as having value in that it enhances global information-sharing regarding the timely monitoring of low-yield, covert tests elsewhere in the region.

Second, the construction of IMS facilities would strengthen seismic data collection, which is of great utility on the earthquake-prone subcontinent.²⁶ In India, the construction and certification of its four listed IMS stations could augment seismic networks already in existence.²⁷ The additional data these four stations could provide would help local bodies and the national government better forecast where powerful earthquakes are likely to occur and prepare for them more effectively. The same is true in Pakistan, where data compiled by the Pakistan Meteorological Department suggests that earthquakes are becoming more frequent and the likelihood for high-magnitude quakes is rising.

Beyond earthquake monitoring, seismic and infrasound data from IMS facilities could also augment both countries' ability to anticipate tsunamis. The need for timely tsunami warnings became abundantly clear following the 2004 tsunami in the Indian Ocean, which killed more than 230,000 people.²⁸ IMS data is especially useful in this respect because it is greater in volume and available more rapidly, accurately, and from more diverse locations than data derived from national networks.²⁹ By participating in the IMS, India and Pakistan would both contribute to, and benefit from, this increase in network coverage.

In this light, even apart from security and nonproliferation benefits, India and Pakistan would gain tangible benefits in the realm of natural disaster preparedness should they build IMS facilities on their territories. In linking these facilities to the IMS network, India and Pakistan would derive the benefits of information-sharing in the international system while demonstrating responsible nuclear stewardship. By participating in the IMS, scientists from both countries could also profit from increased interactions with the CTBTO. National entities in India and Pakistan have expressed their interest in establishing this type of contact. The Institute of Seismological Research in Gujarat, India, for example, highlighted its interest in "mechanisms for research, training and collaboration with national and international organizations in related fields."³⁰ The Seismic Monitoring and Early Tsunami Warning Center of the Pakistan Meteorological Department has identified "exchanging information pertaining to seismology with international agencies" as one of its objectives.³¹ On this basis, state and national research institutions would support the establishment of IMS facilities as one path to the interaction with the CTBTO that these entities seek. This contact could, in turn, build support

among the scientific communities in both countries for greater engagement with the international nonproliferation regime.

Increasing interaction with the CTBTO might also increase contact between scientists and technical experts in India and Pakistan. This potential has already been realized on a limited basis through the CTBTO's Science and Technology forum. At the 2017 forum, for example, a team including Indian researchers presented the results of their analysis of 17 years of earthquake data derived from the IMS to predict the magnitude and frequency of future earthquakes in the Hindukush-Pamir Himalaya region.³² At the same conference, a researcher from Pakistan's National Defense University underscored how the application of pattern informatics onto global seismological data could be utilized in disaster prediction.³³ These studies highlight places where India and Pakistan's national interests coincide and raise awareness about the importance of the IMS to researchers in both countries. Because scientific cooperation is often less affected by political challenges than other types of interactions, CTBTO-facilitated contact between Indian and Pakistani scientists might build trust and lay the groundwork for other, more ambitious CBMs in the future.

Conclusion

There are a number of tangible, practical benefits for both India and Pakistan should they choose to build IMS facilities on their respective territories. Most importantly, both states would send a strong signal that they take seriously their responsibilities of nuclear stewardship. Despite long-standing mistrust and a lack of political will, policymakers in both countries would do well to seriously consider how the construction of IMS facilities on their territories could enhance their national security and strategic interests.

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Address South Asia's Fissile Material Conundrum

Mansoor Ahmed

Introduction

South Asia is witnessing a growing competition in conventional and nuclear capabilities. During the past two decades, India and Pakistan have added more than two dozen dual-capable delivery systems and are in the process of building out their respective nuclear triads.¹ Of late, both countries are adding counterforce capabilities and platforms to their arsenals. They are also capable of adding multiple independently targetable re-entry vehicles (MIRVs) or MIRV-equipped ballistic missiles to supplement counterforce capabilities.²

Fissile material production has remained a decades-old area of competition that will continue to be a key factor in determining the size, scope, and shape of Indian and Pakistani strategic force postures. The South Asian fissile material conundrum is too wide to capture by casting a single net. A push to start negotiations on banning production at the Conference on Disarmament (CD) in Geneva has remained unsuccessful so far. Therefore, it might be useful to identify the underlying causes of this impasse.

Over the past few years, Pakistan has been reluctant to agree to participate in negotiations for a draft Fissile Material Cut-off Treaty (FMCT), primarily because of the asymmetry in existing stockpiles with India, particularly plutonium (Pu).³ A lack of transparency on fissile material stockpiles in India is an additional key hurdle in moving forward. India's civilian Pu that is outside the safeguards of the International Atomic Energy Agency (IAEA) is central to the problem, given that New Delhi has designated this material as a "strategic reserve."⁴ The International Panel on Fissile Materials (IPFM) includes separated reactor-grade Pu in its estimates of India's military Pu stocks. As of January 2017, India is estimated to have accumulated 6.58 tons.⁵ Experts like Mark Hibbs also agree that almost all participating governments in the Nuclear Suppliers Group (NSG) process would welcome transparency in Indian stockpiles.⁶ From a South Asian strategic stability perspective, India's existing and growing unsafeguarded stockpiles of weapons-grade and weapons-usable fissile material stockpiles are likely to have a direct bearing on Pakistan's calculus of how much it might need in terms of sufficiency, although Pakistani officials insist that the country is not aiming at nuclear parity with India.⁷

Pakistan has in the past proposed several bilateral initiatives to India for regional stability and arresting the perpetual action-reaction cycle that

is characterized by enduring animosity and mistrust through the past seven decades. Pakistan called for establishing a nuclear-weapon-free zone in 1972 and 1974, as well as simultaneous adherence to the Nuclear Non-Proliferation Treaty (NPT) prior to overt nuclearization, and has offered more recent proposals as part of a strategic restraint regime, such as cruise-missile-test notification and a legally binding bilateral moratorium on nuclear testing. Each one of these proposals has been rejected by the Indian side.⁸ Therefore, another way forward is through a multilateral framework such as the FMCT that could help to reduce the complex security dilemma in South Asia. In this context, however, it will be unrealistic to expect any unilateral measures or concessions by Pakistan that do not address its regional security concerns and growing asymmetries in capabilities.

The Proposal

I propose that all unsafeguarded civil fissile material stockpiles — of Pu and highly enriched uranium (HEU) — as well as production facilities designated as part of civilian nuclear energy programs in South Asia should be placed under IAEA safeguards and included in the scope of the proposed FMCT. Coupled with it, a clear and verifiable separation between civil nuclear-power-reactor and associated fuel-cycle facilities and military activities through the IAEA should be enforced.⁹

As civilian stockpiles of reactor-grade plutonium are weapons-usable and as HEU for naval reactors can be quickly enriched to weapons-grade levels, this proposal would serve to drastically reduce the quantity of fissile material available for potential weapons use. It would also enable the application of comprehensive safeguards on all dual-use nuclear plants, facilities, and materials that might be part of civilian nuclear energy programs, but are not presently covered by any oversight. The inclusion of these facilities and materials would also improve their international safety and security standards. Should such an initiative hold a prospect of realization, Pakistan would have no reason to remain outside the negotiations toward an FMCT, thereby strengthening the nuclear nonproliferation regime.

The Biggest Hurdles Working Against the Initiative

India's unsafeguarded civilian fissile material stockpiles are declared to have been earmarked as fuel for its upcoming fleet of fast breeder reactors (FBRs), the first of which (a 500 MWe prototype FBR) is yet to be commissioned after suffering seven start-up delays.¹⁰ The FBRs — part of India's three-stage nuclear energy program that have been kept outside safeguards under the IAEA separation plan — will be a ready source of an exponential increase in weapons- and reactor-grade Pu production when they are commissioned. This

and India's large-scale ongoing expansion of its enrichment, reprocessing, and Pu production infrastructure are also fueling Pakistan's strategic anxieties and its threat calculus, which in turn are driving its operational and sufficiency requirements. Pakistan's estimated existing stockpile of about 210-280 kg of weapons-grade Pu and 3.41 tons of weapons-grade HEU is barely sufficient to meet the warhead requirements of a credible deterrent comprising a triad-based arsenal of 11 types of ballistic and cruise missiles (including short-range systems like the Nasr).¹¹

A second hurdle is that Pakistan lacks an excess stock of fissile material. Pakistan was a late starter in Pu production as a result of bureaucratic choices made four decades ago. Pakistan began work on its first 50 MW (thermal) production reactor in 1986; it was commissioned after 11 years. It has added three small 50 MW Pu production reactors since 1998, with the third and fourth reactors going on-line as recently as 2011 and 2014.¹²

It is therefore reasonable to assume that Pakistan would want to utilize these reactors to produce an additional stock of Pu that meets the existing and planned sufficiency requirements — first by narrowing the yawning gap with India and then by resulting in a small excess stockpile. This is important to lend credibility to Pakistan's diplomatic stance of accounting for existing stockpiles of fissile material in the form of a Fissile Material Treaty (FMT) instead of an FMCT that only calls for a future cut-off of production. While the FMT is consistent with the Shannon Mandate governing the negotiations for an FMCT — and goes one step ahead of the FMCT in terms of advocating disarmament in addition to arms control — Pakistan's FMT position is unlikely to secure any support among the weapon-states that already have large stockpiles and have stopped production decades ago. Pakistan's FMT stance is therefore clearly aimed at addressing the asymmetry in existing stockpiles in South Asia (see table).

The lack of excess stocks of fissile material might be one reason why Pakistan's representative to the CD highlighted concerns in the summer of 2014 regarding existing stocks of different weapons-usable nuclear materials: "We propose that this weaponized fissile material may not be touched by the treaty, and be dealt with in the future Convention on Nuclear Disarmament." He further argued that nonweaponized fissile material — including that which has been set aside either for new warheads or for the replacement and refurbishment of existing warheads, in addition to civil Pu from any unsafeguarded reactor and HEU for naval propulsion — should be accounted for and brought under the ambit of safeguards of an FMCT. He also called for "mutual and balanced reductions" of such unsafeguarded civil stockpiles — past and future — of fissile material on a regional or global basis.¹³ This was followed by the submission of a working paper, "Elements of a Fissile Material Treaty," at the CD in August 2015 that reiterated Pakistan's earlier position.¹⁴

South Asia's Fissile Material Gap (2015-16)

	INDIA	PAKISTAN
Weapons-Grade Pu	600-800 kg	210-280 kg
Civil Pu (Unsafeguarded)	6.4 ± 3.5 ton (Separated) 11-14 ton (Unseparated)	None
HEU	4.0 ton (30-45 percent U-235)	3.4 ton (90 percent U-235)
Weapon Equivalent Production Capacity of HEU+Pu/year	260 warheads	22 warheads

THESE ESTIMATES ARE DERIVED FROM: Zia Mian, et. al., *Fissile Materials in South Asia: The Implications of the U.S.-India Nuclear Deal* (Princeton, NJ: IPFM, September 2006); International Panel on Fissile Materials, *Global Fissile Material Report 2015* (Princeton, NJ: IPFM, December 2015); and International Panel on Fissile Materials, *Fissile Material Stocks: India/Pakistan* (Princeton, NJ: IPFM, February 2018).

Paradoxically, some argue that Pakistan's position at the CD of advocating for the accounting of nonweaponized or excess stocks might prove to be counterproductive, given that India could easily use it to its advantage. India could declare one portion of its unsafeguarded fissile material stockpile open for accounting under an FMT and designate a part or all the remaining as weaponized. This could permanently freeze the weaponized asymmetry in India's favor, where it would enjoy a huge advantage over Pakistan. Regardless of whether India chooses to adopt such a course or not, in the absence of a surplus Pakistani stockpile, any bilateral, regional, or multilateral reductions of unsafeguarded (civil) or military stockpiles of fissile material is a nonstarter for Pakistan.

A third challenge would be to ensure transparency and the verification of separation for civilian and military fuel-cycle and reactor operations in South Asia. Doing so would primarily rest on whether the IAEA would be able to monitor and verify the accuracy and completeness of such a separation. This would require that all civilian fuel-cycle facilities or power and research reactors or breeder reactors that are part of any civil energy program — and the materials produced therein — are placed under safeguards.

While Pakistan has all its research and power reactors — both existing and planned — under IAEA safeguards, India does not. In 2008 India was allowed by the IAEA, as part of the separation plan for the U.S.-India civil nuclear deal, to keep eight pressurized heavy water reactors (PHWRs, of 2,350 MWe) and its breeder reactors outside safeguards. India has announced plans for building six (600-MWe) FBRs by 2039 and 10 700-MWe PHWRs.¹⁵ Despite being part of the three-stage civil nuclear-energy program, these power and breeder reactors have clearly been kept out of the "military" list of plants and facilities, in line with the principles of separation that only allowed facilities to be designated as civilian if they were not in any way associated with India's strategic program. This arrangement has generated three parallel and overlapping streams of reactor operations and fuel-cycle activities — civil (safeguarded), civil (unsafeguarded), and military (unsafeguarded).¹⁶

The IAEA can only certify an accurate and verifiable separation of civilian and military nuclear facilities if the 2008 India-IAEA safeguards agreement for India's separation plan is renegotiated. As John Carlson has argued, the overlap in India's civilian unsafeguarded and military nuclear facilities raises the possibility of diversion of materials under the existing IAEA safeguards, which would violate one of the conditions for membership of the NSG. Once a more effective safeguards agreement is in place, it would enable the IAEA to monitor and report on the transparency, completeness, and accuracy of its safeguards.¹⁷

Pakistan has no such intersections of civilian facilities feeding into its weapons program. While it has a small unsafeguarded military nuclear fuel cycle dedicated to producing fissile material for nuclear weapons, in 2006 the Executive Committee of the National Economic Council approved a \$1.2 billion plan to establish a "purely civilian" commercial-scale nuclear fuel cycle that would be placed under IAEA safeguards. It would include all front-end facilities — uranium processing, conversion, enrichment, and fuel fabrication — and would allow for the local production of pressurized water reactor fuels.¹⁸

In 2012, Pakistan's Planning Commission confirmed that it was working on developing a Pakistan nuclear fuel complex/nuclear power fuel complex comprising a chemical processing plant, an enrichment plant, a seamless tube plant-1, a fuel fabrication plant, and a nuclear fuel testing plant, with an estimated cost of Rs. 51.298 billion.¹⁹ Once complete, this would enable Pakistan to add a completely civilian fuel cycle — separate from its production reactors and military fuel cycle — to its already safeguarded research and power reactors under the IAEA oversight.

A fourth hurdle is whether Pakistan and India would be willing to accept intrusive monitoring of their respective unsafeguarded civilian fissile material production facilities and stockpiles. While Pakistan has zero unsafeguarded civilian stocks of spent fuel or fissile material — as all its power and research reactors are under IAEA safeguards — this might be difficult for Indian decisionmakers to accept.

India is unlikely to agree either to a revision or amendment of its 2008 IAEA safeguards agreement for its civil-military nuclear separation plan. This is because its unsafeguarded civil nuclear materials (Pu and HEU) have been designated as a strategic reserve and as civil-production and fuel-cycle facilities, and heavy water power and breeder reactors outside safeguards are associated with its strategic program.

Why the Initiative Might Nonetheless Be Useful

It is now clearly in Pakistan's national security interest to address the resultant disadvantages accruing from increased Indian fissile material production, its ability to use and process unsafeguarded stocks of civilian fissile material, and the "three overlapping and parallel streams of facilities."

If, as a result, Pakistan shifts its position and rejoins negotiations at the CD, India would be placed on the defensive and is likely to overtly oppose these negotiations,

getting Pakistan off the hook. But for this to happen, it is imperative that the discussion on civil stockpiles and facilities producing all unsafeguarded civilian nuclear materials be considered for inclusion in an FMCT. It would also be in India's interest to undertake a clear separation of civilian and military nuclear facilities and operations. This would also favor India's stalled bid for entry into the NSG.

Besides South Asia, this proposal is relevant to address nonproliferation concerns on the horizon emanating from East Asia that have a direct bearing on U.S. national security interests — both in terms of its alliance relationships in the region and preventing further proliferation. The encompassing of all types of weapons-usable civilian nuclear materials under the IAEA safeguards system is pivotal to the strengthening of global arms control and nonproliferation efforts. These objectives are particularly relevant in the 21st century given that civilian Pu stockpiles are likely to be among the next big proliferation concerns with the attendant risk of cascading nuclear proliferation in tension-prone regions such as East Asia.

Japan is a case in point, with the largest stockpiles of weapons-usable civil Pu second only to the United States. Japan is an NPT signatory, and a very large proportion of the IAEA annual budget is spent on monitoring and safeguards of Japanese stockpiles. Yet Japan's plans to commission a large commercial reprocessing plant at Rokkasho have been, for a long time, fueling fears of South Korea following suit — and South Korea has to deal with nuclear saber-rattling from a belligerent and unpredictable North Korea on a regular basis. China, for its part, is deeply concerned about Japan's plans for reprocessing. Beijing's own large-scale commercial reprocessing plans are driven by the requirements of energy security.²⁰

However, Japan and South Korea do not have any unsafeguarded spent fuel or civilian stockpiles, and China — recognized by the NPT as a nuclear weapon state — reportedly ended fissile material production for weapons long ago. Consequently, there is a prospect of a “nuclear explosive arms race in East Asia.”²¹ Experts believe that 47 tons of Japan's civil Pu stockpiles represent a direct proliferation concern, with about 11 metric tons of Pu on its soil and another 37 metric tons stored abroad — enough to make roughly 2,000 nuclear weapons.²²

There are no transparency concerns with regard to Japan or South Korea. In contrast, India stands out as the only country that has the largest unsafeguarded weapons-usable civil Pu stockpile outside the NPT states. Therefore, Indian lack of transparency in unsafeguarded civil and military fissile material stockpiles leaves Pakistan worrying over what is sufficient for it to maintain the credibility of its deterrent. Thus, by addressing the issue of transparency in civil unsafeguarded fissile material stocks, the world could be nudging Pakistan to change its position at the CD.

Global nonproliferation norms can only be strengthened in the second nuclear age — witnessing a surge in vertical proliferation in South and East Asia — through a universal, nondiscriminatory, and uniformly applicable set of principles that do not create country-specific exceptions and concessions while expecting all others to adopt unilateral restraints.

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Share Nuclear Information

Hannah Haegeland

Introduction

Voluntary information-sharing declarations can be a communication tool for nuclear-armed states with the potential to strengthen global security and stability.¹ Declarations can help states send messages that they are responsible stewards of nuclear science and technology; participate as safe, productive, and competitive trade partners in nuclear commerce; and possess secure and credible nuclear arsenals. We can trace the origin of multilateral, fissile-material-related confidence-building measures (CBMs) to the early stages of global nuclear-energy development. Bilateral agreements, followed eventually in 1957 by the International Atomic Energy Agency (IAEA), were created “to ensure that fissile material was not diverted to nuclear weapons, either by states or by non-state actors.”² Beyond assurances of civil-military divides in nuclear programs and pursuing shared commitments to prevent horizontal proliferation and nuclear terrorism, routine nuclear-information-sharing mechanisms can serve broader confidence-building functions. In South Asia, there is a precedent for this agenda in annual Indian and Pakistani declarations of nuclear facilities.³

Policy debates around participation in multilateral information-sharing mechanisms highlight fundamental tensions within nuclear-armed states dealing with safety, national security, and international security. Assuring other states that fissile materials are securely managed against the global threats of illicit horizontal proliferation and nuclear terrorism is a widely recognized priority.⁴ Yet, there are compelling political, safety, and security incentives for nuclear-armed states to keep information about their fissile material stocks secret. In South Asia, these tensions are compounded by the unique histories of nuclear programs in India and Pakistan and their partial participation in global nuclear governance.

Despite these challenges, voluntary information-sharing mechanisms regarding sensitive nuclear issues present key opportunities for participating states and the broader international community. The time might again become ripe for India and Pakistan to further bolster their standing as responsible nuclear stewards. I propose that both states join an existing multilateral forum for fissile-material confidence-building — the Guidelines for the Management of Plutonium, or IAEA information circular 549 (INFCIRC/549).⁵ The IAEA published INFCIRC/549 in 1998 to facilitate multilateral information-sharing and promote best practices for the safe and secure management of civilian plutonium (Pu) stockpiles.⁶

For India, participation in INFCIRC/549 would entail publicly declaring Pu stocks in its civilian nuclear facilities already under IAEA safeguards. For Pakistan,

following China’s lead, participation could be as simple as declaring null civilian Pu stocks. Participation by both states would lend credibility to the forum — in which India’s absence has become conspicuous because of its growing civilian Pu stocks — as a multilateral mechanism for promoting global nuclear-materials security. For India and Pakistan, participation would admit them into another forum along with every other major nuclear-armed state and key states with nuclear-energy programs — thereby strengthening both countries’ nuclear-security credentials.

The Proposal

Today, nine states participate in INFCIRC/549 by reporting their civilian Pu holdings through the public release of annual statements. A few countries have expanded the mechanism to also voluntarily declare civilian highly enriched uranium (HEU) stockpiles or Pu holdings in excess of defense requirements. The following table shows the flexibility of INFCIRC/549 in terms of when and what materials are reported — not just civilian Pu — and how different states report different materials at different developmental stages of their civilian nuclear programs. This mechanism has the potential to be stretched further to improve multilateral dialogue and cooperation on sensitive issues related to nuclear materials.⁷

INFCIRC/549 Historical Reporting by Country^{8,9}

REPORTING TYPE	COUNTRIES AND YEARS REPORTED	
Unirradiated separated plutonium (Pu): in manufacturing/fabrication and product stores at reprocessing plants	Belgium (1996-2016)	Japan (1996-2016)
	China (1996-2016)	Russia (1996-2016)
	France (1996-2016)	United Kingdom (1996-2016)
	Germany (1997-2016)	United States (1996-2016)
Pu in unirradiated mixed oxide (MOX) fuel elements	Belgium (1996-2016)	Russia (1996-2016)
	China (1996-2016)	Switzerland (1997-2016)
	France (1996-2016)	United Kingdom (1996-2016)
	Germany (1997-2016)	United States (1996-2016)
	Japan (1996-2016)	
Highly enriched uranium (HEU)	France (2001-2016)	Germany (2001-2016)
	United Kingdom (1999-2016)	
Pu held at sites in foreign countries	Belgium (1997-2016)	Russia (1996-2016)

	China (1996-2016)	Switzerland (1997-2016)
	France (1996-2016)	United Kingdom (1996-2016)
	Germany (1997-2016)	United States (1996-2016)
	Japan (1996-2016)	
Pu in spent fuel at civil reactor sites	Belgium (1996-2016)	Russia (1996-2016)
	France (1996-2016)	Switzerland (1997-2016)
	Germany (1997-2016)	United Kingdom (1996-2016)
	Japan (1996-2016)	United States (1996-2016)

There are three primary incentives for a state to engage in voluntary information-sharing about sensitive nuclear materials. First, these mechanisms are a way for states to declare shared commitments, such as to nuclear-materials security, or shared objectives including preventing nuclear terrorism and horizontal proliferation. Second, such mechanisms could be used to convey messages of responsible nuclear stewardship. In the case of INFCIRC/549, participation is an opportunity for a state to publicly and routinely indicate the direction of its nuclear program's development. Specifically, within the first few years of participation, each INFCIRC/549 state submitted a multipage statement broadly outlining the status, development plans, and national strategy for nuclear energy and the nuclear fuel cycle within its borders.¹⁰ Third, mechanisms like INFCIRC/549 have inherent value as vehicles for multilateral communication about sensitive, security-related issues. Information-sharing mechanisms are fundamentally CBMs.¹¹

All three of these incentives apply to India and Pakistan in the case of INFCIRC/549. Together with current participants in INFCIRC/549, both states share concern over and have a demonstrated commitment to global nuclear-materials security. Public material accounting could help the international community prevent and prepare for the possible management of nuclear terrorism. Additional participation in multilateral nuclear CBMs could help bolster both states' nonproliferation credentials for application to the Nuclear Suppliers Group (NSG). Participation would add another piece of evidence to demonstrate responsible nuclear stewardship.

The benefits of participating in INFCIRC/549 reporting have few, if any, costs for both states. Pakistan has very little civilian Pu to report at present, but stands to gain through participation. Initially, Pakistan could participate by declaring zero separated civilian Pu as China did until 2011, after its Jiuquan reprocessing facility began operating. Pakistan could gain additional credit by reporting on civilian HEU stockpiles, as the United Kingdom does. Pakistani participation, and reaffirmation of its commitment to maintaining a civil-military divide in its nuclear activities, is particularly important in light of its plans for an expanded

civilian nuclear-energy program and technological capacity to pursue civilian reprocessing.¹² Pakistan's civil nuclear energy program continues to grow to meet high domestic energy demands, and reportedly is commissioning new Chinese reactors and mining cooperation. New participation in existing multilateral CBMs on nuclear-materials management would emphasize its commitment to global nuclear security and bolster its reputation as a responsible, growing nuclear-energy power.

India might report its estimated 400 kg of safeguarded civilian Pu. Although it has no near-term interest in declaring its technologically sensitive, strategic-reserve nuclear stocks or in putting them under international safeguards, voluntarily and publicly declaring already safeguarded Pu would be a good-faith demonstration of India's commitment to a civil-military divide between peaceful pursuits of nuclear energy and its nuclear-weapons program. The fact that all of India's current and possible future nuclear-energy partners participate in INFCIRC/549 declarations gives this mechanism a normative status for nuclear-energy powers.¹³ Overall, trade-related confidence-building was a core element of INFCIRC/549 from the beginning. One notable accomplishment of the mechanism was that some participating states "did make new pledges concerning international transfers of plutonium covered by the Guidelines."¹⁴ These new commitments established an international system for responsibly tracking shipment of separated Pu between supplying and receiving governments. India's future plans for nuclear commerce could benefit from participation in this more practical and normative aspect of the guidelines.

Finally, the long-term value of INFCIRC/549 and South Asian participation is rooted in its function as an invitation for additional confidence-building. It can serve as a baseline for communication beyond simple declarations. Participating states have met periodically in the past and might do so more frequently. Developing mechanisms, bureaucratic systems, relationships, and channels for sharing sensitive information is critical for normalizing shared management principles and building lasting confidence on international fissile-material management.

Hurdles for Participation

Admittedly, there are problems of asymmetry with this proposal. India's fissile material stockpile is much larger than Pakistan's. It has a large and technically advanced civil nuclear-energy program, and it has received special waivers to engage in nuclear trade. Pakistan has no separated civil Pu, but has small quantities of Pu in spent fuel and has declared plans for significant expansion of its nuclear-energy program.¹⁵ The flexibility of participation in INFCIRC/549 reporting — as demonstrated by current participating states, from Switzerland to the United States — is malleable enough to absorb this asymmetry.

Another possible argument for either India or Pakistan to not participate in INFCIRC/549 is that the language from the guidelines and participating states'

declarations includes brief mention of the Nuclear Non-Proliferation Treaty (NPT), to which India and Pakistan are nonsignatories. This language, drafted by participating members in 1997 prior to India and Pakistan declaring their nuclear-armed status, is:

5. Non-Proliferation and International Safeguards

Plutonium will continue to be handled in accordance with the Government of [...]’s obligations under the Treaty on the Non-Proliferation of Nuclear Weapons, [(Belgium), (Germany), (France), (UK) its obligations under the Euratom Treaty], its Safeguards Agreement(s) with the IAEA, and its other nuclear non-proliferation commitments.

States also added the following clause to their first declarations:

[...] and contribute to the achievement of the Principles and Objectives for Nuclear Non-proliferation and Disarmament adopted at the Review and Extension Conference of the Parties to the NPT in New York in May 1995.

To overcome this political hurdle, the guidelines language might easily be adapted for declarations from South Asian states to include only mention of their existing safeguards agreements and other relevant commitments, and exclude any language related to the NPT review conferences. When asked about this specific hurdle at a recent workshop on Pu management in Vienna, experts from participating INFCIRC/549 countries confirmed that adjusting the language would be a simple process and one to which participating states would likely accede in order to gain South Asian participation. Further, there is already precedence for changing the framing language laid out in the Guidelines for the Management of Plutonium. In 2009 the IAEA published a modification after receiving *notes verbales* from all participating states reflecting their revised management plans in line with the new Convention on the Physical Protection of Nuclear Materials.¹⁶

A third potential hurdle is political fatigue in India after concerted attempts to gain membership to the NSG. Some argue that the international community keeps moving the goalposts on India for normative acceptance into the global nuclear order. Even from this perspective, however, the primary remaining hurdle for Indian admittance to the NSG is China’s presumed veto. While waiting for this problem to be sorted, India could continue to build its case to demonstrate its commitment to responsible stewardship and nuclear security. This could help preempt criticism that Indian cooperation on nuclear security is transactional and could give fence-sitting NSG members a rebuttal to Chinese concerns.

The same principles broadly hold true for Pakistan, whose case for the NSG might be boiled down to arguments over equal treatment with India and rules-

based criteria for NSG admittance. If India participates in INFCIRC/549, Pakistan's case for equal treatment with its South Asian neighbor would be bolstered by also joining. Conversely, if India does not engage — particularly after past attempts by participating states in INFCIRC/549 to galvanize Indian participation — Pakistan's choice to do so would be an even stronger gesture.

An additional potential hurdle to South Asian participation in INFCIRC/549 reporting is the argument that joining another voluntary multilateral mechanism without verification is a meaningless gesture, particularly if NSG membership remains remote. A state can misrepresent information about its stockpiles, sending false messages about responsible Pu management and the directions of its nuclear programs. While this risk is entirely real, it is a weakness shared with all early-stage nuclear confidence-building initiatives. This is all the more true because of INFCIRC/549's multilateral nature. False declarations cannot be prevented, but they would not help a nation's attempt to be viewed as a responsible steward if they are widely suspect. The Nuclear Security Summits (NSSs) from 2010 to 2014 demonstrated the productive potential of beginning with a multilateral forum to declare shared principles and concerns over nuclear security and then building from there with voluntary, tailored, state-by-state offerings.

Continued participation by China, France, Russia, the United Kingdom, and the United States testifies against any lingering concerns over sharing such limited nuclear information that India or Pakistan may have related to security, sovereignty, or proprietary technology. Like these powers, India and Pakistan now have mature nuclear programs with sophisticated weapons-delivery systems and closed fuel cycles. True voluntary declarations under INFCIRC/549 pose no threat.

A final potential hurdle is that any benefits from participation in INFCIRC/549 would be redundant, as the relevant Indian and Pakistani civilian nuclear facilities are already under IAEA safeguards. This overlap is an advantage, not a hindrance. Publicly declaring estimates of Pu stocks — beyond privately submitting them to the IAEA — is a small measure already aligned with both countries' current CBM activities.

Overcoming Hurdles

Multipolar challenges in the second nuclear age require multilateral solutions. Voluntary “gift baskets” offered by states at the four NSSs to build confidence and address lax nuclear-material security accomplished critical first steps toward the yet distant goal of comprehensive global security over fissile-material stockpiles. A nuclearized Asia presents new challenges and opportunities to the global nuclear order. Multilateral nuclear CBMs without Indian and Pakistani participation fall short of their potential to have meaningful global impact.

Ultimately, nuclear security is a shared global concern. India and Pakistan, together with nuclear-armed and nuclear-energy states around the world, are

already committed to addressing nuclear-security challenges. Building trust among nuclear states on fissile-material management is a key aspect of addressing these challenges. Civilian materials already under international safeguards are a good starting point. Plutonium management requires more early-stage diplomatic efforts, particularly given the focus on HEU by initiatives like the NSSs.¹⁷ Effective efforts to tackle the uncertain future of arms control and nuclear-security challenges require NPT member states to consider and include non-NPT members in discussions. Simultaneously, nuclear-armed states outside of the NPT could, where useful and within the bounds of national sovereignty, choose to participate in CBMs that strengthen norms of responsible nuclear stewardship. Remaining outside the mainstream global nuclear order on such mechanisms weakens not only international security, but also national economic and security interests.

In South Asia, there is precedence for voluntary information-sharing mechanisms about sensitive issues like nuclear-materials management. Examples include bilateral Indian and Pakistani agreements to reduce risks related to nuclear accidents; refrain from attacking nuclear facilities; and ban chemical weapons.¹⁸ Indian and Pakistani participation in INFCIRC/549 would involve low-cost decisions with the potential to help yield key political, economic, and security benefits. There is support for South Asian participation among participating states. The mechanism is voluntary and customizable. Participation poses no risks and could be very limited, such as Pakistan declaring no separated civilian Pu stocks. Further, INFCIRC/549 has the flexibility to be developed into a broader forum to facilitate more routine communication between the world's nuclear states regarding fissile-materials management, including discussion of expanding such confidence-building initiatives in the future.¹⁹ Indian and Pakistani INFCIRC/549 declarations could easily accomplish minor, but meaningful, gradual and pragmatic steps toward ideal objectives. All serious arms control began with initially small, voluntary diplomatic offerings. In the near term, these small steps help cultivate and maintain globally normative standards for safe and secure nuclear stewardship.

Endnotes

1. This essay was made possible in part by the Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the author.
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Part 6

IMPROVE COMMUNICATION



Break the Impasse: Direct Talks Between Army Chiefs

Feroz Hassan Khan

Introduction

India and Pakistan exemplify the changed character of warfare in the 21st century. They once fought conventional wars. Now they shadowbox under a nuclear overhang. As technological leaps spur new revolutions in military affairs, violent non-state groups form alliances that challenge state monopolies on the use of force. Professional militaries face unprecedented challenges as complex and rapidly changing political, security, and environmental circumstances not only defy the traditional role of the militaries, but also demand quicker resolution of conflicts.

Twenty years since the 1998 nuclear tests, India and Pakistan continue to wrestle with stability challenges while both modernize their conventional and strategic forces and engage in an arms competition that is burdensome on respective national resources.¹ Both militaries are engaged in operations internally, suffer bloodshed, and induce wear and tear on weapons and equipment. Each perceives mischief by the other behind their mutual woes. Cross-border/Line of Control (LoC) violence has significantly increased² as each side inflicts senseless agony on the other, resulting in terrible deaths and injuries to soldiers and civilians alike. While neither side blinks, the Kashmiri citizens tragically suffer — relentlessly, exceeding 70 years — with no end to their misfortune.

Commemorating 70 years of independence, leaders in India and Pakistan vowed not to repeat mistakes of the past and promised to look into the future for better, stable lives for future generations.³ Encouraging rhetoric from the leadership of both countries brings ephemeral hopes, but dissipates quickly to the usual “blame game.” Generations since partition have seen this cyclical pattern all too often. Meanwhile, the region remains a crisis away from blundering into an accidental war that could escalate and cross into the nuclear domain.

It is time for India and Pakistan to try a new approach. This essay proposes that the Indian and Pakistani governments upgrade their military-to-military interaction to the highest level — a dedicated channel of conversation between army chiefs. One purpose of this channel would be to craft a new process for sustained military-to-military dialogue and institute a process of negotiating military confidence-building measures (CBMs) and nuclear risk-reduction measures. While military leaders meet and discuss professional matters, the political and civilian institutions would maintain their oversight, control, and final decisions on the direction of bilateral relations.

The Proposal

I propose that the Indian and Pakistani army chiefs as well as the respective national security advisors (NSAs) meet periodically at a mutually agreeable, neutral location to discuss professional matters and security issues that affect the militaries of both countries. The first meeting would break the ice, focusing on general professional matters in areas requiring immediate remedial steps to alleviate mutual concerns and to reduce tensions.

The two chiefs could then constitute a standing Military Working Group (MWG) headed by three-star generals (senior corps commanders). The MWG should be mandated to meet twice a year and submit reports to the respective army chiefs, who would review and report through government channels to their respective prime ministers.⁴ The agenda for MWG meetings might include, but not necessarily be limited to: reviewing the efficacy of current agreements and existing military-to-military CBMs between the two countries, identifying additional measures to backstop and implement them, and crafting new CBMs relevant to the changing technological evolutions and military circumstances. These meetings could be held annually, rotating each year in India and Pakistan. The proposed MWG would not replace the existing hotline between directors general of military operations (DGMOs) and other existing channels of communications.

The two militaries are often blamed for lack of progress in finalizing military CBMs and agreements such as a mutual withdrawal from the Siachen Glacier and delineation of the Sir Creek boundary. Rather than casting the militaries in the role of spoilers, I propose that they be given the responsibility to achieve positive results. They can do no worse in front of the scenes than behind the scenes, and they might do much better. In this way, instead of dealing with inferences, the apportionment of blame or credit for accomplishment would fall directly on military leaders.

The Rationale

There are several reasons for this proposal. First, the modalities of current military-to-military communication need reform and change. The most high-ranking structured communication between the two militaries at present is their DGMO hotlines, which are necessary but insufficient to break major impasses, and which do not generate new initiatives.⁵ Second, composite dialogues in the past have failed to create a viable process resulting in new CBMs and nuclear risk-reduction measures. Both states blame the other's militaries for the impasse.⁶ Finally, the changed character of war and emergence of new factors — including climate and environmental changes — contribute to instability and will affect both militaries alike. It is in the security interest of both countries that their military leaderships remain constructively engaged.

Insufficient Communication Structure

Since their independence, Indian and Pakistani military leaders have never met directly while in office.⁷ Once a unified British Indian military that was split in 1947, the two militaries have fought major wars, engaged in military crises, and remained in a continuous standoff along the LoC in the disputed Kashmir region. India-Pakistan military deployment is the longest perpetual military deployment in contemporary history, predating the 38th parallel on the Korean Peninsula and the Golan Heights in the Middle East.⁸ The LoC in Kashmir is active and violent with frequent cross-border firing, raids, and infiltration.

Further, India and Pakistan do not have any risk reduction or communication system that can prevent miscalculation or misperceptions. Over time, India and Pakistan have agreed on several nuclear and military CBMs, but are unable to develop a viable mechanism for their extension and meaningful implementation. I argue that with the shifting political-security landscape and technological innovations, India and Pakistan should now move “beyond atmospheric CBMs.” As Michael Krepon has observed, “the connective tissue between atmospheric CBMs and military-and-nuclear related measures is weak.”⁹ Meetings of the two army chiefs would shake the inertia, give professional stature to the process, and provide the “adhesiveness” to the tissue, which is long due in South Asia.¹⁰

Failure of the Composite Dialogues

The second reason for suggesting this new approach is that past attempts at “comprehensive” or “composite” dialogues have yielded insufficient results and failed to establish a sustainable consultative body for peace and security.¹¹ Since the spring of 1997 both countries have attempted “composite” dialogue comprising eight baskets of issues, but these dialogues fell victim to mutual acrimony between the two countries.¹² One basket of the eight — namely, “peace, security, and confidence-building measures” — convened more vigorously than others, especially after the 1998 nuclear tests. Under the pressure of international sanctions following the nuclear tests, major powers encouraged bilateral dialogue between the two new nuclear-armed countries. The international community is still convinced that structured peace and stability in South Asia is critical to international security.

Highly bureaucratized bilateral dialogues led by respective foreign secretaries progressed, typically, at a slow pace. An alternative to military-to-military dialogue is summitry. The perils of summitry were, however, on display when Indian Prime Minister A. B. Vajpayee and Pakistani Prime Minister Nawaz Sharif decided to meet dramatically in Lahore. This summit resulted in the famous Lahore Agreement in February 1999.¹³ The “peace, security, and CBMs” basket of the composite dialogue produced the Lahore Memorandum of Understanding, which to date remains the master document committing both countries to

“engage in bilateral consultations on security concepts and nuclear doctrines, with a view to developing measures for confidence building in the nuclear and conventional fields, aimed at avoidance of conflict.”¹⁴

The Lahore Agreement pledged to create further working groups to explore ideas and to proceed with a process of continuous engagements on national security issues, but the Kargil Crisis immediately after derailed prospects of any substantive process. If summitry between the prime ministers is too risky — arguably because the militaries are not on board — then a high-level military-to-military channel may well be a better bet for a sustainable success at the summit level.

The Lahore framework, however, leaves open the possibility for the two countries to restart the process. The last conventional military CBMs agreement was in 1991, for advance notifications on military exercises and air space violations.¹⁵ Since the Lahore Agreement, only two agreements — the 2005 ballistic missile flight-test notification and the 2006 nuclear accident notification — have been signed.¹⁶ No other progress has been made. In 2003, a LoC cease-fire agreement was initiated — notably at the initiative of the Pakistan army chief and president — but it gradually lost adherence when unaccompanied by a serious process to improve relations, and subsequently became a dead letter after the Uri and Pathankot attacks in 2016.¹⁷ A cease-fire has been revisited in 2018 with the support of both militaries.¹⁸

The NSA channel is occasionally employed to seek improvement in bilateral ties, but to little or no avail. The two DGMOs continue their scheduled weekly communication. These interactions are important, but at best remain “atmospheric.” During 2004 and 2008, there was intense back-door diplomacy that included discussion on Kashmir, Siachen, and Sir Creek. Reportedly, both sides reached some form of agreements and commitments from the highest political leadership. Yet, for a variety of reasons, India and Pakistan were unable to finalize these agreements. Hopes were dashed in November 2008 after the Mumbai terror attacks. A decade of tense relations followed.

Observers have often attributed failure to reach consensus on interagency disagreements within each country — primarily pointing fingers at the military and intelligence establishments of the other. Indian analysts assert that the Pakistan military is against improving ties with India by objecting, for example, to the granting of most-favored-nation status that normalizes trade to meet the terms of World Trade Organization conditions.¹⁹ Conversely, Pakistani analysts assert that the Indian military objects to agreements on “low-hanging fruit,” such as an agreement to withdraw from the Siachen Glacier. In the summer of 2012, for example, following a tragic avalanche that buried nearly an entire Pakistani infantry battalion, Pakistan Army Chief General Ashfaq Parvez Kayani called for the demilitarization of the Siachen Glacier.²⁰ Negotiations followed at the bureaucratic level that had reportedly reached agreement, but the Indian army chief publicly opposed any withdrawal of Indian troops and dashed prospects of settlement.²¹

Changed Character of War

There is a third compelling reason for the two militaries to have structured professional exchanges. Violent organized groups function autonomously using technologies that were primarily the exclusive domain of regular militaries, changing the character of war and domestic violence. Military forces have been drawn into prolonged asymmetric warfare. Information warfare, cyberattacks, and freewheeling social media shield attribution and manipulate military operations. These shifts increase the chances of the sudden and unanticipated eruption of military crises that neither military can control. Improved military-to-military communication could address these challenges.

In research and Track II workshops that this author organized with the aim of exploring the impact of emerging technologies on deterrence stability, one conclusion reached was that the changed character of wars and new instruments that have been added to the mix of expanding arsenals are blurring deterrence thresholds. Induction of cyber war, space capabilities, autonomous weapons, unmanned aerial vehicles, and dual-use, long-range precision strike systems are just a few examples where new instruments of warfare complicate the already complex strategic terrain.²²

Mistrust, contested military doctrines, and inadequacy of communication add to the prospects of misperceptions, accidents, and inadvertent escalation. CBMs negotiated more than two decades ago are no longer sufficient. The region now needs to build upon old CBMs and seek new ideas to match the requirements of the current times. The erstwhile Pakistani offer of a strategic-restraint-regime arrangement may also need reexamination in light of the significantly changed strategic and technical environment.

Environmental change compounds national-security challenges. Climate change affects mountains, rivers, and seas. The Siachen Glacier and Sir Creek are under stress and changing far more rapidly than is generally recognized.²³ With global warming melting the glacier, the perpetual deployment for over three decades of India and Pakistani soldiers at the roof of the world needs to be rethought. Military deployments not only contribute to the pollution of the environment; they are victims of the hazards of climate change, just as the Pakistan Army battalion perished under the avalanche in Siachen Glacier in 2012. Recent studies point to compelling reasons why attention must be paid to the resolution of Sir Creek dispute. There are dead zones (i.e., an absence of oxygen) in the vicinity of the Gulf of Oman that, in combination with pollution into the sea from inland rivers, are affecting sustainable marine life in the region. Further, the rise of sea level due to climate change is affecting the Sir Creek tidal channel and complicating the delineation of maritime boundaries. Sir Creek merits a speedy resolution and deserves to be declared an environmentally protected area.²⁴

Challenges

One major challenge to this proposal is that it is too radical — perhaps provocative. Both countries have political leaders operating under a system of democracy. They have

foreign ministries, diplomats, and functioning state bureaucracies that are capable of executing state-to-state relations. In India, political leaders prize civilian control over the military. This proposal would result in raising the stature of the Indian army chief, to the chagrin of the Indian civil bureaucracy. In Pakistan, where the history of civil-military relations is much different, this proposal will be criticized for yielding even more civilian control to the military. The gravitas of the Pakistan army chief in the national polity is so profound that it overshadows civilian achievements. For many, the optics of having the military in the lead is just not right even if the rationale is understood. Others might simply reject this proposal because change is always hard to accept.

Overcoming Challenges

The primary reason why it is nonetheless important to overcome these challenges is because security concerns and destabilizing factors are growing between Pakistan and India. Diplomats have been hamstrung in dealing with these issues, bureaucrats proceed at a snail's pace and are risk-averse, and meetings between prime ministers are rare. The one channel that could be most helpful has been least utilized. It is time to consider high-level military-to-military talks to break logjams.

It is also time to test the assumption that the two militaries are opposed to the normalization of India-Pakistan relations by challenging them to take responsibility to negotiate military-related CBMs. There would, necessarily, be civilian oversight. Indeed, the onus of bringing an end to enduring conflict would rest on the political and civilian leadership. High-level, sustained military engagement can help. This process can, at a minimum, grasp the low-hanging fruit of settling the Siachen Glacier and Sir Creek issues. Old military-related CBMs could be updated and new military-related CBMs could be advanced. Military perspective for conflict resolution could be exchanged. Cease-fires could be reaffirmed. First steps toward the resolution of more intractable issues could be taken.

There are several signals emanating from Pakistan that reflect a clear desire to reach out. The Pakistan army invited India's defense attaché to attend the Pakistan Day military parade in March 2018. India and Pakistani military contingents are expected to participate in a joint military exercise under the aegis of Shanghai Cooperation Organization, which is unprecedented. Indian and Pakistani troops participate in United Nations peacekeeping missions. Pakistani and Indian military officers attend professional courses abroad. While they maintain their respective professional national positions, they and their families develop bonds and friendships that transcend the acrimony of politics at home.²⁵

Because both countries are democracies, are nuclear-armed states, and possess experienced bureaucracies, bright civil societies, and vibrant media, India and Pakistan should be all the more confident to challenge their professional militaries to stimulate ideas and help improve bilateral ties. Seeking solutions inside the box has failed. It is time to try outside-the-box solutions.

Endnotes

1. The Pakistani budget that was announced in April 2018 projected at least 1 trillion rupees in defense expenditure. See Baqir Sajjad Syed, "Budget 2018-19: RS1.1 Trillion Proposed for Defence," *Dawn*, April 28, 2018.
2. Happymon Jacob, *Ceasefire Violations in Jammu and Kashmir: A Line on Fire* (Washington, DC: U.S. Institute of Peace, 2017), <https://www.usip.org/sites/default/files/PW131-Ceasefire-Violations-in-Jammu-and-Kashmir-A-Line-on-Fire.pdf>.
3. Indian Prime Minister Narendra Modi reiterated his resolve to defend the country and regarding the persistent Kashmir uprising, stating that it "cannot be resolved by either bullet or abuse but only by embracing all Kashmiris." (See "Bullets or Abuses Will Not Help Resolve Kashmir Issue, Says Narendra Modi," *The Hindu*, August 15, 2017.) Across the border in Pakistan, on August 14, 2017, Pakistan Army Chief General Qamar Javed Bajwa hoisted a 400-foot flag at the India-Pakistan border at Wagah and stated "the height at which this national flag flutters bears testimony to Pakistan's promising future." (See "COAS Hoists Pakistan's Largest Flag at Wagah Border on Eve of Independence Day," *Dawn*, August 14, 2017.)
4. Other members of the MWG may include directors general of military operations, directors general of military intelligence, commanders of the Border Security Forces and Rangers, and the joint secretary from the Ministry of Defense. The MWG may subsequently include directors from air and naval operations and officials from Pakistan's Strategic Plans Division and India's Integrated Defense Staff as the work progresses. The scope of the MWG would expand or reduce depending on the success or otherwise of the initial deliberations.
5. The DGMO hotlines remain the primary means of military communication between the two militaries. Every Tuesday, the two DGMOs speak at a specified time on routine military matters and to clarify any questions. This is an important CBM. See Rajat Pandit, "India, Pakistan DGMOs Hold Talks on Ceasefire Violation and Terrorism," *Times of India*, May 30, 2018. There are other forums such as meetings between director-generals of the rangers (Pakistan) and border security forces (India) and between maritime security agencies, which are important, but operational matters remain with the DGMOs, who report to the respective chains of command. See "BSF Raises Concerns with Pak Rangers in Sector Commander Meeting," *The Hindu*, November 11, 2017; and "Pakistan Maritime Security Agency High Level Delegation Led by Rear Admiral Arrives in New Delhi," *Times of Islamabad*, May 28, 2018.
6. The most detailed and promising peace and security agreement between India and Pakistan is the Lahore Agreement of 1999, which has a memorandum of understanding. There has been negligible progress on the Lahore Agreement.
7. The only exception has been when the Pakistani army chief is also the president of Pakistan, and thus interacts as head of state with India's political leadership.
8. Pranab Dhal Samanta, "The Indian Army Also Has Its Own Kashmir Story to Tell," *The Economic Times*, May 15, 2017.
9. Michael Krepon, "Moving Beyond Atmospheric CBMs," *Dawn*, August 20, 2012.
10. Ibid.
11. For a comprehensive list of CBMs between India and Pakistan, see Michael Krepon, "South Asia Confidence-Building Measures (CBM) Timeline," Stimson Center, April 14, 2017, <https://>

www.stimson.org/content/south-asia-confidence-building-measures-cbm-timeline.

12. The eight baskets of issues are Peace and Security, including CBMs; Jammu and Kashmir; Siachen; Wullar Barrage/Tulbul Navigation Project; Sir Creek; Economic and Commercial Cooperation; Terrorism and Drug Trafficking; and Promotion of Friendly Exchanges in Various Fields. See Ministry of External Affairs, Government of India, "India-Pakistan Relations," April 8, 2014, <http://mea.gov.in/Portal/ForeignRelation/Pakistan.pdf>.

13. Stimson Center, "Lahore Summit," February 20, 1999, <https://www.stimson.org/lahore-summit>.

14. Ibid.

15. Krepon, "South Asia Confidence-Building Measures (CBM) Timeline."

16. Ibid.

17. "India, Pakistan Clash on Kashmir Border Ends Brief Truce," *Straits Times*, June 3, 2018.

18. "India and Pakistan Agree to Truce on Kashmir Border," *New York Times*, May 30, 2018.

19. T. V. Paul, *The Warrior State: Pakistan and the Contemporary World* (Oxford: Oxford University Press, 2015). See also Gurmeet Kanwal, "An Open Letter to Pakistan's Chief of Army's Staff," *Indian Defense Review*, April 2, 2016, <http://www.indiandefencereview.com/an-open-letter-to-pakistans-chief-of-army-staff>. For Pakistani scholars echoing Indian allegation, see S. Akbar Zaidi, "The Problem of Making Peace," *The Hindu*, April 22, 2016.

20. Anita Joshua, "It Is Time to Resolve Siachen, Says Kayani," *The Hindu*, April 19, 2012.

21. Gaurav C. Sawant and Shiv Aroor, "Blood Politics on Siachin," *India Today*, May 5, 2012. See also "India and Pakistan hold Siachin Glacier Talks," *BBC News*, June 11, 2012.

22. International Institute of Strategic Studies, *The Military Balance 2017* (London: International Institute of Strategic Studies, 2017), 15-16, <https://www.iiss.org/publications/the-military-balance/the-military-balance-2017>.

23. Saleem H. Ali, "Use Environmental Diplomacy to Resolve the Sir Creek Dispute," Stimson Center, Off Ramps Initiative, December 18, 2017, <https://www.stimson.org/content/use-environmental-diplomacy-resolve-sir-creek-dispute>.

24. Vijay Sukheja, "Neemrana Dialogue: Exploring Ecology-Environment Matrix for Sir Creek Resolution," *South Asia Defence and Strategic Review* 12, no. 2 (May-June 2018): 45, <http://www.defstrat.com/neemrana-dialogue-exploring-ecology-environment-matrix-sir-creek-resolution>.

25. Pakistan Army Chief General Qamar Bajwa and former Indian Army Chief General Bipin Singh served together in a U.N. peacekeeping mission in 2007-2008. Both have tremendous professional respect for each other to date. See "Ex-Indian Army Chief Praises Gen. Qamar Jawad Bajwa," *The Tribune*, November 27, 2016.

Launch a Hotline Between National and Nuclear Command Authorities to Manage Tensions

Harry I. Hannah

Introduction

India and Pakistan could benefit from establishing a dedicated, secure, and redundant 24/7 communications link — a “hotline” — between their respective NCAs (the National Command Authority in Pakistan and the Nuclear Command Authority in India), the top decision-making bodies on nuclear issues.¹ Twenty years after becoming overt nuclear powers, India and Pakistan have not established a direct communications link between their respective nuclear apparatuses. This is despite three major crises during this period (in 1999, 2001-2002, and 2008), and regular firings and militant attacks across the Line of Control (LoC). In contrast, the United States and the Soviet Union established their nuclear “hotline” 14 years after the USSR became a nuclear state.

There are two broad models for this communications link. They are not mutually exclusive, but overlap and reflect the range of linkages that were established between adversaries in the Cold War. The first would be a nuclear risk reduction center (NRRC) comparable to what the United States and Soviet Union created in the late 1980s. The second is a hotline patterned after the U.S.-Soviet hotline established in 1963 in the wake of the Cuban Missile Crisis. The latter would be similar to what Aditi Malhotra suggested in *South Asian Voices*, reflecting on the 20-year anniversary of the nuclear tests.²

As first proposed (in the early 1980s), an NRRC was intended to facilitate negotiations and support procedural and technical measures to reduce nuclear risks, create a buffer for nuclear discussions from the ups and downs of U.S.-Soviet relations, provide instant communications, and reassure worried publics.³ Notably, the NRRC linked civilian decision-makers, although there was military involvement. What emerged in the late 1980s and early 1990s was a more modest center that focuses on the information exchanges to support a variety of nuclear arms-control treaties, although it has expanded its role to support the Conference on Security and Cooperation in Europe.⁴

The U.S.-Soviet nuclear hotline was established in 1963 after the Cuban Missile Crisis. In the wake of their near war experience, both sides realized that there was no secure, authoritative, reliable, and rapid communications method between their respective nuclear command-and-control apparatuses. However, unlike the NRRC, which is controlled by civilians in each country, the hotline runs only between the headquarters of U.S. and Soviet/Russian militaries.⁵

There is currently no communications link between nuclear apparatuses in India and Pakistan, and the hotline between Indian and Pakistani foreign secretaries has been moribund since it was agreed to in 2005.⁶ Consequently, nuclear risks in South Asia are increasing as both countries pursue destabilizing weapons, such as battlefield nuclear weapons and ballistic missile defense,⁷ and both countries pursue aggressive policies against each other, including support for cross-border militancy and short-war contingencies (also known as Cold Start).⁸

The Proposal

India and Pakistan would benefit from establishing a link between their nuclear apparatuses that is more robust than the U.S.-Soviet/Russian hotline. However, attempting to create an NRRC-like structure, even one stripped down to the current version, is well beyond what the mutual relationship would currently tolerate. Attempting to establish an NRRC-like structure could be a recipe for failure. The U.S.-Soviet/Russian NRRC was only established at the end of the Cold War after years of arms-control negotiations and treaty implementation, significant interaction between each country's nuclear and military establishments, and diminished mutual hostility.⁹ These conditions are unlikely to exist in South Asia for many years.

Instead, this proposal seeks a "hotline-plus" communications link. At some point in the future, when relations become more stable, this could grow into an NRRC-type arrangement. This hotline-plus should include the key military and civilian organizations responsible for nuclear issues in order to address the array of nuclear challenges and to take advantage of modern information/digital technology.

The hotline-plus should entail direct 24/7 secure communications between each country's top nuclear command elements — the NCAs. These would benefit from having dedicated staff, facilities, and communications in both capitals and, if needed, in distributed locations elsewhere. Locating this structure at the top of the government indicates the importance of nuclear issues and helps facilitate the execution of decisions.

Like the U.S.-Soviet/Russian NRRC, this structure can be used to exchange information, including ballistic missile test launches and annual data exchanges, as well as to support future negotiations and additional confidence-building measures. Like the U.S.-Soviet/Russian hotline, it can serve as a secure communications link between military command-and-control elements. A structure at the NCA level would encompass civilian organizations and serve as a vital link to coordinate nuclear safety, health, and environmental concerns between neighbors. While modern information/digital technology can greatly facilitate connectivity in a way not possible during the Cold War, India and Pakistan would benefit from exchanging liaison officers to reduce risks of misinterpreting information and to build trust.

Potential Benefits

Neither New Delhi nor Islamabad is pushing for a hotline, and neither is willing to implement such an initiative in response to international desires. Relations between the two are poor, with considerable mutual hostility and no trust. Both are content to use existing formal and informal diplomatic links to communicate with each other, supported by the hotline between their respective armies to manage the level of violence along the LoC. Regardless, there are two potential benefits that support their national interests that may transcend their mutual enmity: managing risks associated with expanding nuclear infrastructure, and the need to manage unforeseen actions or events during major crises.

Managing Safety, Health, Security, and Environmental Risks

India and Pakistan are expanding their nuclear programs, including civilian power-generation and research capabilities. Consequently, there are more facilities, more sensitive material being shipped, and more people involved, increasing the odds of accidents and security problems. India is seeking to expand its civilian nuclear-power industry significantly to support economic development and reduce pollution caused by coal and other fossil fuels. While implementation of its plans has slowed, India wants to build more than 20 nuclear power reactors over the next couple of decades. Meanwhile, Pakistan is buying Chinese nuclear power reactors to reduce oil imports and support economic development.¹⁰

There is a real prospect of an accident or security incident occurring. Almost every other country with nuclear power reactors has experienced incidents ranging from small-scale accidents to major events (e.g., Chernobyl, Three Mile Island, and Fukushima). Given the already fraught relations between India and Pakistan, the chance that such an incident could be misinterpreted by the other is high, especially given the expansion of social media and the risks of rumors and “fake news.” Just as important is India and Pakistan’s physical proximity, which means that an accident in one could cause health and environmental threats in the other in a matter of hours or days.

A direct 24/7 communications link would provide a ready and rapid means to inform the other side of what really occurred. Moreover, depending on the location of the incident, a nuclear hotline may allow for coordination of a response if there are health or environmental risks. Such a hotline would include civilians, thereby linking the key elements directly affected by such a reactor accident. Establishing this hotline at the NCA level would also combine military and security elements that could aid in dispelling rumors. By integrating civilian and military elements, those organizations with the most capacity to respond to a serious accident would be quickly mobilized. India and Pakistan have agreed in broad terms that nuclear accidents are issues they should discuss, and an NCA hotline could serve as the communication link.

Managing Crises

A hotline is likely to be of little benefit in preventing a crisis if India or Pakistan is intent on using force or threatening force, including nuclear weapons, to gain political advantage. Nonetheless, a communications link between their NCAs would be useful in reducing the risk that unintended ups and downs in their relationship could escalate beyond what the either side expects. In this way, a hotline between the NCAs would serve the same function as the existing hotline between the directors general of military operations (DGMOs), but for nuclear crises. The existing DGMO hotline was established in 1990, and it has limited, but not stopped, the violence along the LoC. India and Pakistan have normalized its use to manage tensions and calibrate actions in order to prevent escalation beyond the level that either government wants. As both countries deploy and normalize their nuclear forces aimed at each other, they should establish a similar means to manage potential nuclear tensions.¹¹

Beyond the broader mission of managing crisis-escalation risks, the changing nature of nuclear forces in India and Pakistan makes crisis de-escalation increasingly challenging. India and Pakistan are increasingly using mobility and dispersal to ensure survivability. As a crisis develops, both countries will disperse weapons as a part of their mobilization efforts.¹² After a crisis peaks and both sides decide to end the standoff, they will need to return their forces to garrison and lower readiness. Monitoring and verifying this redeployment of nuclear systems will be a major challenge, especially since tensions and mutual mistrust will be high. A hotline would be essential in providing a means to coordinate de-escalation and ensure that one side does not think the other is cheating.

A simple example is illustrative of the potential benefit. After a crisis ends and both sides are returning forces to garrison, a deployed missile launcher could have an accident or break down and cannot be moved. A hotline would provide a rapid and ready way to inform and reassure the other side.

Pakistan is introducing battlefield nuclear systems to counter a potential Indian conventional offensive.¹³ Consequently, there is a prospect that these weapons may be moved into the field early in a crisis and be physically closer to forces that had engaged in combat. As a result, coordinating de-escalation will become even more important, challenging, and time-constrained, necessitating a rapid and authoritative conversation between the two governments to avoid misperceptions and reigniting the crisis.

India and Pakistan are developing sea-based nuclear weapons, potentially prompting changes in their mobilization; deployment; and command, control, and communications systems. During de-escalation, the nuclear weapons could still be at sea for several days, with a potentially less assured way to prevent the misinterpretation of actions and to ensure that conventionally armed ships and aircraft — or civilian shipping — do not inadvertently impact de-escalation.¹⁴

One of the drivers for creating the U.S.-USSR hotline in 1963 was the difficulty both sides had in monitoring de-escalation, including at sea, with tensions and

tempers still high. After it was signed in 1972, the United States and USSR used the hotline to support the Incidents at Sea Agreement to manage interactions at sea.

Most observers believe that the most likely trigger for a major crisis with nuclear implications is a very large terrorist attack in India by Pakistan-based militants, necessitating intense crisis-management efforts by a third party in addition to the governments in Islamabad and New Delhi. Analysts will debate the extent of Pakistani government control over anti-India militants, but previous crises have contributed to the presumption of culpability if not support. In such a case, a nuclear hotline would afford the opportunity to contain a crisis and limit escalation if events appear to get out of control.¹⁵

Roadblocks: Political Will and Organizational Disconnect

There is no political interest in either capital to establish a link between their NCAs, and the two governments have allowed their existing arrangement between the foreign secretaries to lay fallow. Senior decision-makers are otherwise preoccupied, and bilateral tensions undermine any desire to look for ways to minimize nuclear risk, especially since both sides view a nuclear crisis as a very low-probability event. Some on both sides will perceive that a hotline would amplify risk-taking and reinforce deeply set nuclear narratives. After more than 70 years of animosity, this objection will not be overcome easily. However, given the expanding civilian nuclear programs in both countries, Pakistan's fielding of battlefield weapons, and plans to place weapons at sea, New Delhi and Islamabad need to act to address concrete national interests and isolate the broader argument about national narratives.

There will also be concern that this hotline could be used for espionage and deception. The concern over espionage, which was also raised for the U.S.-Soviet hotline and NRRC, has proven to be unfounded, and in any event could be addressed by sound technical and procedural devices as well as by competent expertise. The possibility of deception will always be present, as is the case in the absence of a hotline between NCAs. A hotline is not going to solve all problems; it just provides one means among others to communicate a solution.

The other main obstacle is the organizational disconnect between India and Pakistan's nuclear apparatuses. The current DGMO hotlines work because similar organizations and people are communicating with each other — an Indian brigadier can talk to a Pakistani brigadier, and they have similar responsibilities and roles and can speak on similar terms. This does not exist with regard to nuclear issues.¹⁶

Pakistan's NCA, the National Command Authority, is dominated by the military, even with civilian politicians involved in decisions. Moreover, the management and operation of the nuclear forces is centralized under the Strategic Plans Division, which effectively provides a one-stop shop for nuclear issues. In contrast, India's NCA, the Nuclear Command Authority, is dominated by civilians centered in the prime minister's office and involving the civilian national security advisor.

In contrast to Pakistan, the management and operation of nuclear forces in India involves strong institutional roles for the civilian Department of Atomic Energy and the Defence Research and Development Organization, in addition to the military's Strategic Forces Command and service chiefs.¹⁷

Establishing a hotline between the NCAs links similar organizations in India and Pakistan. In each case, the command-and-control elements in charge of the military and civilian nuclear programs are connected, enabling communication and decision-making by like organizations regardless of whether the issue is an accident at a power plant, a military crisis, or de-escalation after a military crisis. While India and Pakistan manage their nuclear apparatuses in distinct ways, they both have comparable peak organizations in their respective NCAs. Like the DGMO hotline, an NCA-to-NCA hotline would enable like organizations to communicate with each other.

Aditi Malhotra in *South Asian Voices* made a good proposal by suggesting a hotline between the country's national security advisors as a way of addressing this issue.¹⁸ The challenge is that the advisor in Pakistan may or may not have much power, and centering the link on individuals as opposed to an institution may not capture the organizational diversity in the management of nuclear forces within each country.

Dim Prospects: Outside Pressure and Assistance Required

India-Pakistan relations are likely to remain poor for the foreseeable future. As a result, ideas that originate on the outside, but with logic that can be subsequently embraced by India and Pakistani decision-makers, could help alleviate tensions, especially those related to crises. The United States historically played the key role, as it did in facilitating the 1990 DGMO hotline. However, since then, the U.S. regional role has shifted, as Washington is more focused on Afghan-Pakistan issues and counterterrorism than on India-Pakistan and nuclear stability.

Moreover, Islamabad believes that the United States favors India over Pakistan, as evidenced by the U.S.-India Civil Nuclear Cooperation Initiative. As a result, Washington may not have the influence it once had in the region. Some have suggested including China in South Asian nuclear discussions, given the triangular nature of the regional balance. While Beijing might eventually become supportive, it lacks experience with nuclear hotlines and has historically shied away from nuclear diplomacy in South Asia. Also, Indian-Chinese tensions are likely to be fraught and become increasingly nuclearized as New Delhi fields long-range missiles against China.

The key to moving forward is likely to depend on timing — having an initiative to offer at the right time, when both sides are looking for something tangible during periods when the relationship is improving. India-Pakistan relations fluctuate over time like an irregular sine wave. During a period of eased tension, senior decision-makers often look for useful ideas to advance relations, and a nuclear hotline could serve this goal.

Endnotes

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16. Kanwal, *Sharpening the Arsenal*; Khan, *Eating Grass*; and Koithara, *Managing India's Nuclear Forces*.

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18. Malhotra, "Twenty Years into Nuclear South Asia: Mitigating Dangers Together."

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Stimson's South Asia Program seeks to foster strategic stability in the region by conducting innovative analysis of competitive dynamics and future risks, empowering rising strategic analysts, carrying out field research, creating new forums for India-Pakistan and broader regional engagement, supporting confidence-building and nuclear risk-reduction measures, and promoting constructive U.S. security initiatives in South Asia.

Off Ramps from **CONFRONTATION** in **SOUTHERN ASIA**

Trend lines are worrisome in southern Asia. Border disputes between India and China and between India and Pakistan do not come as a surprise. Their nuclear competition is accelerating with the introduction of new ballistic and cruise missiles. Multiple warhead missiles and missile defenses are being deployed. Counterforce capabilities are in the offing and target lists for nuclear weapons are expanding from cities to military installations. The nuclear cloud hanging over the subcontinent has contributed to restraint during crises, but New Delhi has signaled an unwillingness to be bound by previous rules of engagement, while Rawalpindi seems confident that it can handle whatever India has to offer. Problem solving diplomacy is absent in both pairings.

The Stimson Center has asked rising talent in this field, as well as a few veterans, to propose creative ideas that might be considered once political leaders are willing to improve bilateral ties. This volume adds to Stimson's lengthy track record of offering pathways to a more peaceful, prosperous and secure Southern Asia.