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To cite this article: Rakesh Sood (2022): Managing the China, India and Pakistan Nuclear Trilemma: Ensuring Nuclear Stability in the New Nuclear Age, Journal for Peace and Nuclear Disarmament, DOI: [10.1080/25751654.2022.2152953](https://doi.org/10.1080/25751654.2022.2152953)

To link to this article: <https://doi.org/10.1080/25751654.2022.2152953>



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Published online: 05 Dec 2022.



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Managing the China, India and Pakistan Nuclear Trilemma: Ensuring Nuclear Stability in the New Nuclear Age

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ABSTRACT

The beginning of the nuclear age coincided with the beginning of the Cold War. The politics of the bipolar world, with two nuclear hegemony enjoying nuclear superpower status, shaped the nuclear order. At one level, it would appear to be a success because it helped create and sustain a nuclear taboo that has lasted for 75 years. However, the world has changed. The notions of “nuclear parity” and “mutual vulnerability” that made it possible to reduce strategic stability to nuclear stability and created the enabling conditions for bilateral nuclear arms control have given way to asymmetry with nuclear multipolarity. This has led to the unravelling of the old arms control mechanisms and a concern that the nuclear taboo may be eroding. The United States and the USSR had no territorial disputes; instead, their rivalry played out in the form of proxy wars. Today, nuclear rivals are often neighbours. Their disputes relate to issues of national sovereignty. Further, nuclear dyads have given way to trilemmas and nuclear chains. Technological developments generate further challenges for arms control. More usable nuclear weapons, dual use systems, a renewed offence-defence spiral with missile defences and hypersonics, and growing offensive cyber and space capabilities that make for nuclear entanglement demand a fresh look at arms control and nuclear stability. In the China-India-Pakistan trilemma, proposals have to take cognisance of the new political realities to break out of the cycle of mistrust and reduce risks of both misperceptions and miscalculation that could lead to inadvertent escalation.

ARTICLE HISTORY

Received 13 July 2022

Accepted 24 November 2022

KEYWORDS

Nuclear stability; nuclear dilemmas and trilemmas; nuclear dyads and chains

Introduction

The nuclear order established post-1945 would appear, at one level, to be successful. The Nuclear Non-Proliferation Treaty (NPT), originally a 25-year treaty when it entered into force in 1970, was extended into perpetuity in 1995 and with 191 states parties today, stands as the most widely accepted arms control treaty. Predictions in the 1960s that by the end of the 1970s, there may be up to 25 states with nuclear weapons have not materialised and only four countries have chosen to acquire nuclear weapons since the NPT was concluded. (South Africa was the fifth but walked back when the apartheid rule ended.) Bilateral arms control agreements between the United States and the USSR/Russia have helped reduce the stockpiles

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of the two nuclear superpowers from a high of nearly 65,000 weapons to 13,080 in mid-2021 (Kristensen and Korda 2021a), with most of these confined to reserves. Most importantly, nuclear weapons have never been used since 1945, creating and sustaining a nuclear taboo.

However, instead of a sense of satisfaction, there appears to be a growing sense of unease in the strategic community; there is a feeling that risks of a nuclear exchange are increasing and a war between two nuclear armed states is no longer unimaginable. The probability of the nuclear taboo being breached appears all too real. However, a common understanding on how to address the challenges is missing.

The natural tendency is to revert to the familiar tropes of non-proliferation and arms control. The familiar arms control structure was based on a two-player model, a nuclear dyad. Though there were three other nuclear weapon states, the United Kingdom, France and China, their arsenals were considered marginal and ignored in the arms control process. Furthermore, technological developments in delivery systems and domains like cyber and space, can radically alter the strategic landscape. The notions of parity and mutual vulnerability are being questioned in an era marked by asymmetry, both in terms of arsenals and doctrines, driven by changing threat perceptions.

How will nuclear deterrence work in a non-bipolar world? Is the answer in terms of reducing equations to multiple dyads or trilemmas or strategic chains? What should be the objective of arms control in a multiplayer set up? Is the existing vocabulary of deterrence that originated in a bipolar Cold War context hold up in today's world? Specifically, this paper seeks to explore these questions in the context of the China, India and Pakistan trilemma.

The rest of this paper is divided into four parts. The next section identifies the challenges of the new nuclear age in terms of multiple dyads and triangular relationships and examines the relevance of the existing deterrence model. In part three, there is a short account of the China-India and Pakistan-India rivalries, its sources, similarities and differences. The attempts made so far in addressing the risks through bilateral agreements and understandings are covered in the fourth part. The final section examines future possibilities for dialogue to manage nuclear risks, bilaterally, trilaterally and in a larger setting.

Challenges of the New Nuclear Age

This section explores how the notion of nuclear dyad has undergone a change of salience and explores if trilemma is an adequate concept or dyad, trilemma and chain co-exist and what is the conceptual challenge it poses to the dominant nuclear deterrence theory. It examines the China-India-Pakistan trilemma and also compares it with another trilemma – US-Russia-China to see if there are lessons there.

Nuclear threat perceptions altered radically with the end of the Cold War though the United States and Russia continued to remain the two states maintaining the preponderance of nuclear weapons in the world. For an idea of what changed and by how much – in the mid-1980s, the two nuclear hegemony accounted for 99% of the global stockpiles that were estimated at 65,000, and at present, the two account for 90% of the global stockpiles

that have shrunk almost to 13,000, on account of the reductions that these two countries have undertaken during the last four decades¹

What was more dramatic was that the threat of a nuclear war between the United States and the USSR that had dominated nuclear thinking for the first four decades, receded. The new threat was proliferation, arising out of “loose nukes” exacerbated initially by the break-up of the USSR, followed by the tests carried out by India, Pakistan and North Korea, and the emergence of global terrorism. The “loose nukes” threat was tackled with the “cooperative threat reduction” initiatives initiated by the United States and supported by Russia. It ensured the denuclearisation of Belarus, Kazakhstan and Ukraine, underwritten by the 1994 Budapest Memorandum and ensured that these three countries joined the NPT as non-nuclear weapon states. The new complexity added in the last decade has been the return of strategic rivalry between the United States and Russia as well as between the United States and China, amid fears of a new arms race. Growing adversarial relations of the new states that have acquired nuclear weapons add to risk perceptions.

While the earlier period was shaped by a bipolar rivalry, though other rivalries did exist, the new nuclear age is often described as one of nuclear multipolarity albeit with wide asymmetry. Multipolarity and asymmetry necessitate a re-look at the relationship between nuclear deterrence and the likelihood of conflict at lower levels of military force that had been frozen since the 1950s when both, the United States and the USSR had acquired thermonuclear weapons. This led B. H. Liddell Hart to suggest that since the H-bomb reduces the likelihood of a full-scale war, it would increase the possibility of limited wars, permitting rivals to make tactical gains through non-nuclear means (Litwak 2020). This was the origin of the stability-instability paradox (Krepon 2010). Since the United States and the USSR, separated by oceans, did not have territorial disputes, their limited wars became proxy wars. Albert Wohlstetter however emphasised that there existed only a delicate balance of terror that needed to be constantly monitored and addressed (Wohlstetter 1958). His approach led to the strategy of “flexible response” and Herman Kahn’s idea of an “escalation ladder” introduced the notion of nuclear war-fighting, creating a fertile ground for the nuclear arms race (Fitzsimmons 2017).

In a multipolar nuclear world, rivalries over frontiers are increasingly evident. India and Pakistan fought a limited war in Kargil in 1999 and of late, India has begun undertaking kinetic retaliation for terrorist attacks undertaken by Pakistan-based entities. In recent years, India and China have engaged in stand-offs along the disputed border with growing frequency and the 2020 stand-off in eastern Ladakh, which claimed the first casualties after a gap of 45 years, is still to be resolved. China has asserted sovereignty claims in South China Sea and East China Sea that have been rejected by other countries and the United States has undertaken Freedom of Navigation Operations (FONOPS) in these regions that bring naval forces into closer confrontation. Taiwan is increasingly seen as a flashpoint. Russia’s annexation of the Crimean Peninsula and actions in eastern Ukraine challenged the existing territorial status quo that had held in Europe since 1945. The 2022 conflict has brought Russia into confrontation with NATO that has been

¹The *Bulletin of Atomic Scientists* has been publishing the Nuclear Notebook, widely considered to be an authoritative accounting of nuclear arsenals, currently prepared by Hans M. Kristensen and Matt Korda of the federation of American Scientists. All figures pertaining to global and national nuclear arsenals in this paper are from the Nuclear Notebook to maintain source standardisation. See *Bulletin of Atomic Scientists* (n.d.).

providing military supplies, real-time intelligence and training to the Ukrainian forces. Russia has engaged in nuclear signalling and NATO has refrained from establishing a no-fly-zone over Ukraine. It is therefore clear that in a multipolar nuclear world, both the older and the more recent nuclear weapon states are contending with contested territorial issues.

Potential flashpoints between nuclear weapon states are no longer issues on the peripheries of spheres of influence; these have now assumed centrality as sovereignty-related issues. For China, it is Taiwan and South China Seas; for Russia, it is its former republics; for India (and Pakistan), it has been Kashmir and with China, eastern Ladakh and Arunachal Pradesh that China claims as south Tibet.

During the Cold War, strategic stability was equated with nuclear stability and therefore nuclear arms control negotiations became the medium for strategic stability. The early agreements in the late 1960s and early 1970s like Strategic Arms Limitation Treaty (SALT) and Anti-Ballistic Missile (ABM) Treaty enshrined the principles of symmetry (both doctrinal and in terms of nature of arsenals) and mutual vulnerability. This meant that both sides were reassured about the efficacy of their assured second-strike capability and accepted each other as an existential threat.

The ABM Treaty ceased to exist when the United States unilaterally withdrew from it in 2002. In 2019, the United States formally withdrew from the Intermediate Range Nuclear Forces (INF) Treaty that prohibited both the United States and Russia from having any ground-based missiles (ballistic or cruise) of ranges between 500 and 5500 kms, amid concerns about Russian violations but also because China, now seen as a rival, was not a party to it. New START (Strategic Arms Reduction Treaty) is the only existing nuclear arms control agreement; it was extended in 2021 for 5 years but there are no signs to indicate that the United States and Russia are considering new negotiations. The unilateral abandonment of the ABM Treaty (coupled with development of missile defences and conventional prompt global strike capabilities) by the United States has created uncertainty in Russia about the old model of nuclear arms control. If this is the state of nuclear arms control discussions between the United States and Russia, of which they have a rich tradition, in other rivalries – US-China, India-China, India-Pakistan, US-North Korea – dialogue is presently non-existent, possibly reflecting new political realities that no longer permit strategic stability to be equated to nuclear stability.

For other potential nuclear adversaries, there is no experience of negotiated arms control; further, their nuclear postures and capabilities are marked by asymmetry and not “symmetry” and “mutual vulnerability” that provided the framework for nuclear arms control between the United States and the USSR. Furthermore, the extension of strategic competition into cyber and space domains injects an element of uncertainty by blurring the threshold between conventional and nuclear conflict.

For the first time in more than a century, the United States perceives itself to be in simultaneous rivalry with two nuclear-armed countries, Russia and China, and while the two are not military allies, they do presently enjoy a broad degree of strategic convergence. This implies a shift from the classical dyad to a triangle or trilemma², involving three actors whose current relations with each other carry a degree of fluidity. While the United States seeks to deter both Russia and China, between

²The term “trilemma” came into usage during the past decade. The early reference is in Brooks and Rapp-Hooper (2013).

Russia and China, deterrence is more latent as they currently enjoy a convergence of views though a rivalry could potentially emerge in future. Similarly, there is another triangular relationship; this involves China, Pakistan and India. Here, China and Pakistan have enjoyed a long-standing strategic partnership, founded, in large part, on their adversarial relations with India. This relationship has been further strengthened in recent years by the China-Pakistan Economic Corridor that also passes through the disputed territory of the state of Jammu and Kashmir. Unlike in the US-Russia-China triangle, here there are long-standing territorial disputes. The fact that China is part of both triangular relationships creates a strategic linkage that complicates matters further, especially for India. Another complication is that while for India, China's growing capability is the primary driver, for China, the Indian nuclear capability is a minor consideration as it focuses on its growing rivalry the United States.

Instead of the global ideological divide that animated the nuclear debate during the Cold War, today there is an increasing focus on nationalism. Russian foreign policy, in its post-Soviet phase, is driven by a return to Russian nationalism. China has asserted its goal of "national rejuvenation" to overcome "a century of humiliation". The United States has also witnessed a nationalist re-orientation, most pronounced during the Trump years. In Pakistan, the debate has been coloured by identity and religious nationalism. In India, Prime Minister Narendra Modi is seen to be stoking Indian, but often, also Hindu nationalism. Therefore, rival pairs engage in provocative moves but because the territorial issue is considered vital, the risks of escalation go up. This upsets the delicate balance of terror by reviving the stability-instability paradox but in a more fraught environment, with all countries pursuing nuclear modernisation programmes. Arms control no longer holds in an age of asymmetry, at least not as it existed during the Cold War.

During the Cold War, nuclear stability evolved to cover deterrence stability, arms race stability and crisis stability. Since there was only one nuclear equation of consequence (US-USSR), it was a two-player-strategy game. There were some fairly close encounters, beginning with the 1962 Cuban Missile Crisis and other misperceptions and technical malfunctions that have now been well-documented (Lewis et al. 2014). Today, the different nuclear dyads can no longer be considered on a stand-alone basis. These dyads are coupled into chains; some linkages may be tighter than others, only adding to the uncertainty. The couplings create challenges for managing the nuclear arms race and also in devising possible arms control agreements.

The United States withdrew from the INF Treaty, ostensibly on account of Russian violations but the growing Chinese theatre missile capabilities in East Asia, were also a factor. On the Chinese side, the deployment of Terminal High Altitude Area Defense (THAAD) anti-missile system in South Korea, ostensibly to defend against North Korea's growing missile capability, is perceived as part of a US plan to strengthen its defence capability to the point where it can neutralise China's nuclear deterrent, leading China to invest more in its nuclear modernisation. In the absence of dialogue, such perceptions will remain unaddressed.

In addition to the complicated politics of multipolarity, there are two other developments of concern. The first is technological developments, especially the trend towards acquiring short-range or low yield systems that make nuclear use more likely. Authority

for such systems is likely to get delegated at times of escalating tensions. Another worrying trend is development of dual use capable systems, especially nuclear capable cruise missiles and hypersonic weapons that are being tested and pursued by nearly all the countries in the two nuclear triangles.

The second development is the asymmetry in terms of military doctrines. In the India-Pakistan case, the issue of cross-border terrorism and India's attempts to shift from coercive diplomacy to kinetic retaliation is explored in a subsequent section. One example of doctrinal shift linked to tactical nuclear weapons is the "escalate to de-escalate" thesis that finds mention in the case of Russia and its variant in Pakistan labelled "full spectrum deterrence". The US capabilities are focusing on suppressing Chinese A2/AD (anti-access area denial) systems that could lead in a worst case scenario to rapid escalation.

The above illustrates that many of the lessons of the nuclear deterrence and nuclear stability learnt during the Cold War are being challenged today in both the China-India-Pakistan and the US-Russia-China trilemmas.

The China-India and India-Pakistan Rivalries

Though the China-India-Pakistan nuclear trilemma cannot be entirely divorced from the larger picture as the earlier section showed, given the focus of this paper, this section provides a short account of the China-India and Pakistan-India rivalries, its sources, similarities and differences. The three are contiguous states and have long-standing territorial disputes that have led both India and China to conflict in 1962 and India and Pakistan to conflict in 1947-48, 1965, 1971 and 1999. In addition, there are other sources of rivalry that have emerged.

China-India

India emerged as an independent country in 1947 and adopted the political model of a constitutional democracy. China emerged as a single party authoritarian state after the Maoist revolution in 1949. Its crackdown and forcible takeover of Tibet in 1950-51 made both countries neighbours. As two Asian civilisations, the two had enjoyed centuries of mutual engagement but with a buffer between them. The 1950s was largely a peaceful decade as leaderships in both countries concentrated on domestic consolidation but by late 1950s, differences about the India-Tibet boundary (McMahon Line) that had been settled by the British in 1914 at the Simla Conference where a representative of Beijing was also present, began to surface. A brief war erupted in 1962 in which Indian forces suffered a defeat. Subsequently, China withdrew, vacating part of the territory it had occupied. There is a Line of Actual Control (LAC) separating the two though there are differences regarding the delineation of the LAC.

Relations remained frozen till 1988 when both countries decided to embark on a gradual process of ensuring peace and tranquillity in the border regions through a series of confidence building measures (CBMs) while they sought to develop economic, commercial, cultural and people-to-people ties. Regular summits and exchanges at other levels led to a robust development of these dimensions of the relationship. The border areas remained peaceful.

During the last decade, incidents of incursions began to grow, with increasing stand-offs among the border patrols and eventually, in 2020, the situation took a dramatic downturn in eastern Ladakh. Both sides suffered casualties for the first time since 1975 and despite multiple rounds of talks at the military level and foreign minister levels, both countries have nearly 50,000 soldiers each facing each other. A more detailed examination of the existing agreements and CBMs and why they failed follows in the next section.

The downturn has impacted other areas of the relationship and brought other aspects of the rivalry into sharper focus. China's growing reach into South Asia and the Indian Ocean, its opposition to India's membership in the Nuclear Suppliers Group, use of delaying tactics to stymie Indian efforts to have certain Pakistan-based terrorist groups/individuals listed on the UN Security Council Terrorist list, undertaking Belt and Road Initiative projects in areas of Kashmir, a disputed territory between India and Pakistan and activation of the Quad (consisting of Australia, Japan, the United States and India) in the Indo-Pacific are developments that have raised concerns on both sides. India has made it clear that the situation has to revert to status quo ante as in April 2020 for relations to be retrieved from their downward spiral whereas China has maintained that other dimensions of the relationship should progress even as discussions regarding the border issue continue. At present, the impasse continues and it appears unlikely that relations can be restored to the levels of 1990s.

Latent rivalries have resurfaced and new cracks have aggravated suspicion and mistrust. Ideological differences about the nature of systems, territorial disagreements and power asymmetry between India and China now cast a deepening shadow. China has enjoyed a long-standing strategic partnership with Pakistan but India had put that aside after 1988. Today, the concerns have returned, reflected in increasing commentary about a two-front war. However, India does not perceive China as an existential threat³

India-Pakistan

India and Pakistan have been locked into a conflictual relationship since 1947 when India became independent and was partitioned to create Pakistan. The British rulers divided India on the grounds that Hindus and Muslims constituted two separate nations – the concept of the “two nation theory”. Within months, India and Pakistan were locked in a conflict over the state of Jammu and Kashmir, which had legally acceded to India but was claimed by Pakistan on the grounds that it was a Muslim majority state. After four inconclusive wars in 1947–48, 1965, 1971, and 1999, the state of Jammu and Kashmir remains a disputed territory with India in possession of roughly two-thirds of the erstwhile state and the remaining under the control of Pakistan. The 740 km long Line of Control (LoC) dividing the state of Jammu and Kashmir is well demarcated and the remaining 2,400 km border between the two countries is the mutually agreed “international boundary”.

In 1947, when the conflict over Kashmir erupted, it was couched in terms of the two-nation-theory because that was the rationale of the colonial power to partition the sub-continent. However, as subsequent conflicts between India and Pakistan have shown, the

³The above is a short account of India–China relations over the last seven decades. Among recent books, Bajpai (2021) provides a good introduction..

fault-lines are manifold and the religious divide does not provide an adequate explanation. After all, there are more than 190 million Muslims in India accounting for 15% of India's population, up from less than 10% in 1951. In comparison, Pakistan's population is 210 million; Hindus account for less than 2% of its population, down from 12% in 1951 because many Pakistani Hindus, finding themselves reduced to second class citizens, have either converted or migrated. Moreover, the power of the shared faith, Islam, failed to keep the federal units of East and West Pakistan together. After decades of growing resentment, the eastern wing seceded, following a brutal suppression widely described as "genocide", emerging as Bangla Desh.

In its search for a national identity as a new state, Pakistan sought to reject the idea that it grew from the same civilisational roots as India. Instead, it sought to find identity through religion even though the religious parties like Jamaat-e-Islam had decried the partition as dividing the Muslim *ummah*. This dilemma led to prolonged debates and Pakistan too nearly a decade to finalise its first constitution. The tensions however persisted. Prolonged spells of military rule, beginning in 1958, bred its own distortions in the polity of Pakistan. With the growth of more radical schools of Islam gaining prominence, Pakistan has struggled in its search for a national identity. At times, the military rulers have co-opted the radical religious groups into the ruling structures because of their crowd pulling abilities. This desire for a national identity rooted in religion became the first source of divergence with India whose leaders sought to create a secular, plural and democratic state.

Pakistan went through three prolonged periods of military rule – from 1958 to 1971, 1977 to 1988, and 1999 to 2008. It took its toll on political parties and institutions like the judiciary and media. Even after the last spell ended nearly a decade and a half ago, the military continues to play the decisive role in security, defence and foreign policy. This has contributed to the establishment of a security state that draws nourishment by perpetuating a hostile relationship with India. It further cements the military's role in Pakistan's key foreign relationships – with Afghanistan, China and the United States and in the country's political life.

Moreover, Pakistan's military rulers have often disparaged the political parties and legitimised their coups by presenting themselves as defenders of not just the frontiers of the state but also guardians of Pakistan's Islamic ideology. However, this has only prolonged Pakistan's search for its national identity. The dilemma is that Pakistan would like to be "non-Indian" but this means also rejecting the civilisational roots. The military-mosque nexus has helped in the shift from non-Indian to "anti-Indian", changing the historical narrative and locking not just the state but gradually, also the people into a relationship of hostility. Pakistan's narrative is that India poses an existential threat because it seeks to undo the partition.

Pakistan has sought to compensate for its disparity with India in terms of size, population and economy by resorting to asymmetric warfare and seeking alliances. During the Cold War, Pakistan was a member of two US-led military alliances – SEATO (South East Asia Treaty Organisation) and CENTO (Central Treaty Organisation). Having been a frontline state in the covert US war against the Soviet Union in Afghanistan from 1979 to 1989, Pakistan's Inter-Services Intelligence (ISI) successfully weaponised "jihad" as the instrument to radicalize Islamic groups to undertake terrorist strikes and low-intensity conflict. Pakistan was no stranger to asymmetric

warfare, having supported insurgencies in India that included the Naga insurgency from East Pakistan in the 1960s, Sikh militancy in the 1980s and, since 1990, by waging a proxy war through the training, equipping and infiltration of terrorists into Kashmir in the name of “jihad”. Since the 9/11 attacks on the United States in 2001, Pakistan provided the lines of communication and supply routes for the NATO forces in Afghanistan often leading to tensions with some of the home-grown Islamist groups, leading to the emergence of the Tehreek-e-Taliban-e-Pakistan that the Pakistan army continues to fight against⁴

The 1962 war between India and China saw the beginnings of a closer relationship between Pakistan and China. In 1963, Pakistan and China signed a border agreement involving the ceding of over 5000 square kilometers of land (Shaksgam valley in the northern reaches of Gilgit-Baltistan) of the Pakistani controlled part of Jammu and Kashmir bordering Xinjiang. The fact that this was disputed territory was recognised in Art 6 of their agreement (*American Journal of International Law* 1963). Relations deepened further, especially after the 1971 war that led to East Pakistan emerging as an independent Bangladesh. China actively helped Pakistan in its nuclear weapons and ballistic missile programmes and also became the major defence supplier for conventional systems like tanks, aircraft and submarines. With the China Pakistan Economic Corridor (CPEC), China is set to emerge as Pakistan’s major economic donor and investor as the total value of the projects envisaged is upwards of USD 60 billion. It is hardly surprising that in recent years, this all-weather friendship is eulogised as higher than the mountains, deeper than the oceans, closer than lips and teeth, stronger than steel and sweeter than honey.

The Taiwan Straits showdown between China and Taiwan in 1958 began when China sought to forcibly occupy the islands of Quemoy and Matsu in 1958 and led to US intervention. Eventually, China backed off but it catalysed Chinese pursuit of a nuclear deterrent. By 1964, China had tested its first device. Having suffered a military defeat at China’s hands in 1962, India reacted with growing concern. It began reprocessing shortly thereafter and demonstrated its capability by conducting a Peaceful Nuclear Explosion in 1974. It took nearly a quarter century before India tested again in 1998 and, more importantly, declared itself a nuclear weapon state. In a letter written by Prime Minister Vajpayee to President Bill Clinton immediately following the 1998 tests, he highlighted India’s security dilemma: “We have an overt nuclear weapon state on our borders, a state which committed armed aggression against India in 1962. Although our relations with that country have improved in the last decade or so, an atmosphere of distrust persists mainly due to the unresolved border problem. To add to the distrust that country has materially helped another neighbour of ours to become a covert nuclear weapons state” (*New York Times* 1998). Pakistan had indicated an interest in nuclear weapons shortly after the 1965 war with India but the programme gained traction after 1971. It is widely assessed that Pakistan had cold tested a device by the late 1980s⁵ Within a fortnight of India’s tests in 1998, Pakistan conducted its own series of tests and the

⁴The above is a short account of the sources of rivalry between India and Pakistan. Haqqani (2005, 2016) provide a good introduction..

⁵See for instance Levy and Scott-Clark (2007) and many other books/articles..

nuclear trilemma had come into play, adding another dimension to the triangular relationship.

While the origins of the China-India-Pakistan triangular relationship had begun to emerge in the 1960s, the nuclear trilemma took concrete shape post-1998 after the tests by both India and Pakistan. The first clear manifestation was the letter by PM Vajpayee to President Clinton referred to above. China responded by taking a strong non-proliferation-oriented stance. To India, it appeared hypocritical because China had only acceded to the NPT in 1992 and had significantly aided Pakistan in its nuclear quest. The fact that China was a veto wielding permanent member of the UN Security Council made it easier for China to hide behind P-5 consensus when the UN Security Council adopted Resolution 1172, condemning Indian (and Pakistani) tests.

China's position sharpened when it saw the improvement in India's relations with the United States, leading to the bilateral civil nuclear cooperation agreement. This required modifying the Nuclear Supplier Group guidelines by creating a waiver for India on account of its non-proliferation record and commitment on export controls that would not have been possible without active backing the United States and other countries like Russia and France. In 2008, China once again hid behind some countries that had voiced reservations but came on board once these were withdrawn following last-minute high-level US and Indian diplomatic efforts. By 2016, China had emerged as the second largest economy and when India sought to convert its waiver into NSG membership, China openly opposed India. The argument employed was that NSG should have a policy regarding all non-NPT countries. Since Israel and North Korea were not under consideration, the Chinese ploy was a blatant attempt to equate India and Pakistan highlighting the trilemma.

Bilateral Agreements and Understandings

Having examined the historical sources of conflicts and rivalries between the three countries, it is necessary to add that they have also had a history of engagement. This section focuses on the efforts during the last three decades, especially those that have a bearing on the nuclear trilemma, relating it to the recent crises that have taken place in the two adversarial dyads.

After testing in 1964, China announced a policy of no-first-use and minimum deterrence. China rejected the idea of a nuclear arms race and devoted efforts into ensuring survivability of its deterrent so that it possessed a credible second-strike or retaliatory capability. The nuclear forces have traditionally been kept at low alert level with warheads stored in de-mated condition. However, concerns about US missile defence abilities and conventional prompt global strike systems have spurred China's nuclear modernisation.

While Chinese arsenal currently is 350 compared to 5,550 US (of which 2,000 are in storage) and 6,255 Russian (2,870 in storage), there are concerns that China's arsenal may triple or even quadruple by 2030 (Kristensen and Korda 2020a). There is speculation that China may be considering a move to a "launch on warning" posture. Modernisation of delivery systems (mobile land-based missiles, MIRV capability, quieter SSBNs and longer-range bombers), is expected but new dual use systems are being developed. A Strategic Support Force has been established to develop space, cyber, electronic,

information, communications and psychological warfare missions and capabilities (US Office of the Secretary of Defense 2021). Counter-space, Early Warning (EW) and offensive cyber capabilities reveal an ambition to prepare for and dominate a network-centric battlefield. Though driven by the growing rivalry with the United States, it certainly poses challenges for India's deterrent.

After the 1998 tests, India spelt out the elements of its nuclear doctrine. The last official statement in 2003 (Indian Ministry of External Affairs 2003) specifies the following elements:

- Building and maintain a credible, minimum deterrent, based on a triad.
- Sustaining a posture of no-first-use.
- Ensuring nuclear retaliation in response to a nuclear attack on Indian territory or on Indian forces anywhere, inflicting massive and unacceptable damage.
- Retaining the option of nuclear retaliation in response to a chemical or biological weapons attack.

Since India's doctrine makes clear that its nuclear weapons are solely to deter a nuclear threat or attack, India needs additional capabilities to deal with sub-conventional or conventional-hybrid threats. By eschewing a war-fighting role for nuclear weapons, India has been able to avoid the temptations of an arms race. Given that both adversaries are immediate neighbours, this compresses timelines for decisions regarding responses. India therefore believes it is not possible to make a distinction between "tactical" and "strategic" use of nuclear weapons.

India is estimated to have 150 warheads even as its triad remains a work in progress (Kristensen and Korda 2020b). Its air delivery arm relies on an ageing fleet of Jaguars and Mirage 2000s dating back to 1980s but it is now acquiring the more contemporary Rafale aircraft. Its ground-based missile systems are currently limited to a range of 3200 kms but longer-range missiles are under development. India's only SSBN completed its first deterrence patrol in 2018 (a second is to be commissioned shortly) but it carries a Submarine Launched Ballistic Missile (SLBM) of 700 kms range though a longer-range missile is under development.

Pakistan has chosen a different role for its nuclear weapons. First, it prefers to retain a degree of ambiguity claiming that it strengthens deterrence. Second, its nuclear capability is India-specific, and, consequently, its size will be determined by India's arsenal. Although Pakistan states that it maintains a minimum credible deterrent (sometimes also called a minimum defensive deterrent), its role is not just to deter nuclear use by India but also to act as an equalizer against India's conventional superiority. Pakistan therefore rejects the idea of a no-first-use policy. In the absence of a document or a doctrine, statements by the military leaders, especially Lt Gen. (ret'd) Khalid Kidwai who headed the Strategic Plans Division provide some insights. In 2002, Pakistan had declared "four red lines that could trigger a nuclear response: occupation of a large part of Pakistan territory by India, destruction of a large part of Pakistan's military capacity, attempt to strangulate Pakistan's economy, and creating political destabilization" (Pugwash Conferences on Science and World Affairs 2002). Pakistan's doctrine has since evolved to "full spectrum deterrence" as Pakistan has added short-range nuclear armed systems for tactical use (60 km range Hatf IX or Nasr ballistic missile) and is also adding

a number of cruise missile systems with dual capability. The Nasr was flight tested in 2011 and, according to Kidwai, Pakistan's range of nuclear weapons provide "full spectrum deterrence, including at strategic, operational, and tactical levels" (Kidwai 2020). Pakistan's justification for maintaining ambiguity and going in for tactical nuclear weapons is also explained by Brig. (ret'd) Feroz Hassan Khan who also served at the SPD (Khan 2015).

Pakistan is currently estimated to have 165 warheads. This could grow to 200 by 2025 on the basis of trends and new systems under development (Kristensen and Korda 2021b). By investing in tactical weapons, Pakistan is emulating a flexible response strategy but the mismatch in the two stated doctrines creates escalation risks while lowering the threshold for use. Currently, the delivery mechanisms include aircraft and ground-based ballistic and cruise missiles going up to a range of 1500 km. It is developing ballistic missiles with ranges up to 3000 km and having MIRV capability as well as dual-use sea based and air launched cruise missiles.

China–India Bilateral Agreements and CBMs

Compared to the rather tumultuous ups and downs afflicting India–Pakistan relations, India–China relations have been calmer. After the 1962 war, relations remained largely frozen with occasional border skirmishes that were localised. Before 2020, the last casualties were in October 1975 when four Indian soldiers were killed in an ambush at Tulung-la in Arunachal Pradesh. A subsequent stand-off in the north-east at Sumdorong Chu in 1986–87 was eventually resolved without bloodshed. From 1988, both countries decided to manage the border peacefully by setting up a Joint Working Group on Boundary Question, to continue talks towards a final settlement, while other dimensions of the relationship were developed.

Negotiations led to the Agreement on the Maintenance of Peace and Tranquillity along the Line of Actual Control in the India–China Border Areas, concluded in 1993. The title of the agreement is an exercise in creative ambiguity as the two sides do not have a common understanding of the LAC. The agreement acknowledged this and agreed to draw down military presence, not undertake military exercises in areas where it may be misconstrued and in case troops came face to face, both sides would withdraw instead of getting into a stand-off. This was followed in 1996 with a more detailed Agreement on CBMs in the Military Field Along the Line of Actual Control in the India–China Border Areas. Limits on the size of military exercises, the nature of weapons (including missiles) to be deployed and pre-notification of exercises were among the elements. A significant addition was that both sides committed not to open fire within two kilometres of the LAC, an understanding that broke down last year. When these agreements were concluded, they relied on political will and lacked verification provisions.

Realising the importance of speeding up the work on the boundary issue, in 2003, both sides agreed to appoint a Special Representative "to explore from the political perspective of the overall bilateral relationship the framework of a boundary settlement". While the National Security Adviser has represented India, China has been represented by its State Councillor. The momentum kept up for a few years and in 2005, an Agreement on the Political Parameters and Guiding Principles for the Settlement of the India–China Boundary Question was concluded. However, the ground reality was changing.

Chinese infrastructure in the border areas had been developed and the number of incursions began to grow.

India was slow to realise that the ground reality was changing (Sood 2020a, 2020b). In 1988, when both countries started the new chapter in their relationship, India's GDP was \$296 billion, and China's GDP was \$312 billion (in 2010-dollar terms). In per capita terms, India was marginally better off. The defence budgets of both countries were at par, at \$20 billion each. By 2008, the India's GDP had reached \$1.2 trillion and the Chinese economy was nearly four times larger at \$4.6 trillion. India's defence budget had climbed to \$44 billion while China's defence budget was \$133 billion. The gap has only widened since. Talks between the Special Representatives continued but no substantive progress was made on the boundary question even as the number of transgressions went up from below 200 to over 600 in 2019. With the 2013 Dapsang incursion, the number of soldiers involved in stand-offs were larger and these became more prolonged – Chumar in 2014 on the eve of Xi Jinping's visit to India, Burtse in 2015, Doklam at the Bhutan-China-India trijunction in 2017, and the entire eastern Ladakh sector in 2020.

After last year, it has become clear that an ambiguous LAC is unlikely to remain peaceful and tranquil. Creative ambiguity has run its course and that is why, disengagement and de-escalation has been difficult to achieve. Meanwhile, other aspects of the relationship are getting coloured by the political downturn. In short, the old *modus vivendi* has collapsed. A reset in the relationship is necessary if the downward spiral is to be arrested. Yet, what is significant is even at such a juncture the nuclear issue has never surfaced, reflecting the Chinese understanding that its nuclear deterrent has to focus on its threat perceptions from the United States.

India-Pakistan Bilateral Agreements and CBMs

India-Pakistan crises have been more frequent and often marked by heightened inflammatory rhetoric on both sides that makes resolution a difficult exercise, often requiring third party involvement⁶ The 1972 Simla Agreement was considered the foundational agreement for a gradual normalisation but has clearly failed in that objective. Among the CBMs, the first was the Agreement on the Prohibition of Attack Against Nuclear Installations and Facilities (often called the Nuclear Non-Attack Agreement) signed in 1988 between Prime Ministers Rajiv Gandhi and Benazir Bhutto whose mother (Indira Gandhi) and father (Zulfikar Ali Bhutto), respectively, had signed the Simla Agreement. At the time it was signed, neither country had emerged as a nuclear weapon state; India had demonstrated its capability having conducted a Peace Nuclear Explosion (PNE) in 1974 and maintained a "nuclear option" while Pakistan was widely perceived to be pursuing its nuclear weapons programme. Under the agreement, both countries exchange lists of their nuclear facilities on the first of January every year that are to be protected from attack.

A hot-line between Directors General of Military Operations was established in 1990 and has been since upgraded. It is used on a weekly basis. In 1991, an Agreement on Advance Notification on Military Exercises, Manoeuvres and Troop Movements as also an Agreement of Prevention of Airspace Violations and for Permitting Overflights and

⁶An analysis of India-Pakistan crises under the nuclear shadow was undertaken by the author is Sood (2021)..

Landings by Military Aircraft was signed between India and Pakistan. The former covers exercises at Division-level and above and lays down permitted distance from the border in each case for conducting the exercise. The latter has often been violated and though there is a consultative mechanism to settle differences, its use has been irregular.

A major development was the visit by Prime Minister Atal Bihari Vajpayee to Lahore in February 1999. The visit assumed significance coming after both countries had undertaken a series of nuclear tests in 1998. The Lahore Declaration and the Lahore Memorandum of Understanding (MoU) on CBMs marked a beginning in visualising CBMs, both in the conventional and the nuclear field. However, any optimism was short-lived as the process was derailed by the 1999 Kargil conflict. It was the first crisis under the nuclear shadow when Pakistan tried to alter the territorial status quo through military means.

The next crisis was precipitated by an attack on the Indian parliament in December 2001 by two internationally proscribed terrorist groups based in Pakistan – Lashkar e Taiba (LeT) and Jaish e Mohammed (JeM). India responded by mobilizing its army along the border in early 2002. In an address to the nation on 12 January 2002, General Pervez Musharraf sought to defuse the situation by condemning the “terrorist attack” and announcing a ban on five jihadi organizations, including Pakistan-based LeT and JeM. He declared that no organization would be allowed to carry out terrorist strikes within Pakistan or anywhere else. Before matters could stabilize, tensions escalated again in May when three Pakistani fedayeen attacked an army camp at Kaluchak killing 34 Indian soldiers and their family members. As Indian rhetoric sharpened, in June, General Musharraf warned that if India attacked, Pakistan retained the option of first-use of nuclear weapons. Consequently, the United States, Russia, France, Japan and the United Kingdom engaged in active diplomacy to mediate a de-escalation of the crisis. The United States needed Pakistani military cooperation on the Pakistan-Afghan border in its war against Al Qaeda and the Taliban, and eventually tensions eased when Pakistan began to dismantle the terrorist training camps and the launch pads close to the LoC. Finally, a ceasefire across the LoC was announced.

Contacts resumed after a ceasefire came into effect on the LoC in 2003. A host of engagements took place. Border trade was resumed, bus and rail services began and visa regimes began to get liberalised leading to people-to-people exchanges. Back-channel talks on Kashmir made significant progress but the process got derailed with Mumbai terrorist attack in 2008. Among the CBMs were an Agreement on Pre-notification of Flight Testing of Ballistic Missiles in 2005 and the Agreement on Reducing the Risk from Accidents Relating to Nuclear Weapons in 2007 (Krepon 2017).

The 2008 Mumbai terrorist attack by LeT was an audacious attack. Evidence indicated ISI involvement in the attack. Initially, the newly elected democratic government in Pakistan promised full cooperation including sending the ISI chief to India though the offer was later withdrawn. The attack was universally condemned. However, the attack exposed India's limitations in undertaking targeted kinetic retaliation. Strategic analysts, already unfamiliar with asymmetric nuclear dyads, were now faced with the additional complexity of thinking through nuclear deterrence with respect to non-state actors that enjoyed covert state support.

There was a change of government in India with Prime Minister Narendra Modi coming to power in 2014. After efforts at starting a dialogue as part of a “neighbourhood

first” policy and a surprise visit to Lahore to meet Prime Minister Nawaz Sharif in December 2015, the process got derailed with an attack at the Pathankot airbase the following month, widely suspected to be the handiwork of JeM. Another attack by JeM against an army brigade headquarter in Uri (Kashmir) in September 2016 claimed the lives of 17 Indian soldiers. The Modi government had been promising a more muscular approach against terrorism and responded later in a month with a “surgical strike” across the LoC destroying the launch site and killing the terrorists present. Pakistan denied that there had been any such strike and the situation did not escalate. PM Modi successfully projected the surgical strike as a sign of new-found Indian political will not to be deterred by Pakistan’s nuclear first-use-threat or tactical nuclear weapons. The time for strategic restraint had run out.

In February 2019, with general elections less than two months away there was a deadly suicide attack when an Indian Kashmiri militant drove an explosive-laden SUV into a convoy transporting paramilitary forces in Pulwama (Kashmir), killing 46 troops. JeM claimed responsibility for the strike. The Modi government vowed retaliation. Twelve days later, Indian aircraft bombed a JeM training camp at Balakot in Khyber-Pakhtunkhwa. Pakistan undertook an air attack the following day and as Indian fighters scrambled, in the ensuing dogfight, an Indian pilot ejected from his damaged aircraft landing in Pakistan territory. Rhetoric levels mounted rapidly. However, the captured pilot was returned with the United States, Saudi Arabia and UAE claiming to have intervened to ensure his safe and early return. Pakistan maintained that there was no training camp at Balakot and that the Indian aircraft had dropped their ordnance on a hillside.

India downplayed the escalation by pointing out that it was a pre-emptive strike against a terrorist target on the basis of advance intelligence. Pakistan claimed that it had shown resolve with its retaliation and also displayed responsible behaviour. The rhetoric through media channels claimed that India had called Pakistan’s nuclear bluff and created a new normal. General Kidwai maintained that this was yet another attempt by India to “induce strategic instability” and Pakistan’s calibrated response had “restored strategic stability and no new normal was allowed to prevail” (Kidwai 2020).

All the crises described above are either cases of sub-conventional conflict, that is, attacks by Pakistan-based terrorist entities that enjoy a modus vivendi with the ISI (like LeT and JeM); or hybrid sub-conventional conflict employing both militant groups and regular troops while denying the presence of the latter as in the case of the Kargil war. Pakistan’s attempt to use the threat of TNWs is intended to squeeze India’s space for a punitive conventional kinetic response while the Modi government is determined to demonstrate that it will not be deterred by the TNW threat. Unlike in the case with China, media plays an instigating role in raising the rhetorical pitch. Both these create space for inadvertent escalation though the military authorities have remained measured in their official statements, indicating that there is a better appreciation of deterrence in play. However, as in the case with China, the existing structure of CBMs is not robust enough to stabilise the relationship.

These factors of the China-India-Pakistan trilemma set it apart from the other triangular relationship that occupies strategic analysts, US-Russia-China. Another factor is that so far China has been content to let the United States play a role in stabilising the India-Pakistan escalation dynamic but with China’s growing rivalry with the United

States, it is possible that this approach may change. If so, does this open the door for more CBMs, and if so in what kind of a format?

Exploring Nuclear Risk Reduction Possibilities

Even though India considers China the principal cause for its pursuit of nuclear weapons, it is the India-Pakistan crises that have often been called a “nuclear flashpoint”. With China-India relations taking a downturn, the idea of a two front situation emerging for India gains new salience. The focus on China was reiterated by the Chief of Defence Staff General Bipin Rawat on 11 November at the Times Now Summit 2021 in an hour-long interview (Times Now News 2021). This section examines the prospects of further dialogues in different formats – sets of bilateral dialogues as has been the case so far, or trilateral and multilateral dialogues.

A big hurdle is China’s reluctance to engage in nuclear-related dialogue with India at official level, though at Track II levels there is an acknowledgement that India and China are tied together in a deterrence relationship⁷ Since the conventional mode of thinking about deterrence relationships is in terms of a dyad, this still remains the dominant model. However, compartmentalising deterrence relationships is increasingly seen as inadequate by the United States and India as both face two potential adversaries. China sits at the intersection of two triangular relationships, creating a new geometry of deterrence. One of the first reports reflecting this linkage was the outcome of a Brookings project in 2017, “The Strategic Chain-Linking Pakistan, India, China and the United States”.⁸ The triangular relationship does not diminish the Chinese perception that the United States is the only country that can seek to contain China’s rise as it has the resources and the alliances and therefore constitutes China’s primary security threat but in the Report, the Chinese participants acknowledged the “chain” effect as the secondary consequence.

Feroz Khan has pointed out that there is a degree of overlap between the India-Pakistan Lahore MOU of 1999 and the India-China agreements signed in 1993 and 1996 that could provide a basis for structuring future trilateral understandings and CBMs (Khan 2021). Asymmetries are a part of this trilemma and therefore the US-USSR/Russia model of arms control based on equal warheads or equal launchers does not work. To handle this (and other trilemmas or nuclear chains) the focus has to shift to underlying threat perceptions and address these through providing security assurances both policy and actions. Mistrust characterises both sets of relationships. Only top-driven political commitment will permit sustained incremental measures towards transparency and working groups that can meet regularly to discuss issues of threat perceptions, offensive and defensive weapons as well as deployments, communications at appropriate levels and exchanges of military information and data will make a beginning towards removing the historical cobwebs of mistrust.

The issue of sub-conventional warfare (or cross-border terrorism) is peculiar to the India-Pakistan equation. On this, the assurances and actions will have to be in the

⁷In the paper by James Acton, there are references to retired senior Chinese military officials acknowledging the ground reality while maintaining the primacy of the US nuclear threat (Nina, Acton, and Vaynman 2018)..

⁸The author was associated with this project. Maj. Gen. (retd) Yao Yunzhou, Ambassador (retd) Sha Zukang and Dr Zhao Tong, were part of this exercise. The report is Einhorn and Pal Singh Sidhu (2017).

bilateral context. Visible action against the listed entities, greater cooperation in bringing the perpetrators to justice where there is evidence and checking the infiltration across the LoC as has been managed successfully in the past, are some of the steps that can make a significant difference.

The political systems that determine and manage security policies differ in the three countries. India is a multi-party democracy which has just initiated military reforms to move from three separate service commands to more integrated theatre commands. China is a single party state where the Communist Party is the supreme authority. Pakistan is a democracy but long periods of military rule have given the primary role in the security field to the army. Dialogue mechanisms will have to factor in these differences.

Working groups will need to meet at both bilateral and trilateral levels involving the armies, air forces and navies as well as talks at the policy level that can provide the necessary guidance. The problems with existing agreements that have fallen into disuse need to be taken up and effective implementation resumed. At the same time, the nuclear issue will need to be brought in.

India–China nuclear and security-related dialogues at Track II level have taken place and these could be converted more easily into trilateral platforms. The purpose would be to clear the way for a bilateral dialogue on nuclear issues between India and China. Since both have declaratory no-first-use policies, discussions on a bilateral no-first-use are an eminently plausible subject. Pakistan has a different policy and trilateral discussions could explore issues related to strategic stability.

All three countries have defence training establishments like Staff Colleges for mid-level and the Defence Colleges for higher level officers. These institutions work on threat assessment scenarios and exchanging visits for their exercises would be less sensitive and would initiate a process.

With China now expanding its naval capability, parallel sets of bilateral agreements on preventing incidents at sea could be considered for negotiations.

All three countries have been active participants at the series of Nuclear Security Summits and sharing best practices, trilaterally or in Vienna should be feasible. All three are also engaged on issues like Lethal Autonomous Weapons and Debris in Outer Space that are currently subjects of discussion in multilateral fora. Negotiators from the three countries could establish a practice of trilateral meetings on the margins. Later, other issues like exploring guidelines pertaining to hypersonics, dual-use platforms and offensive cyber activities may also be considered.

More ambitious ideas can also be presented but even the above-mentioned menu provides a wide choice, depending on the political appetite among the political and military leaders in the three countries. The issues facing the three are uncomfortable, but there are no easy or comfortable answers.

As highlighted in the earlier section, there is a significant body of CBMs that exist between India–Pakistan and India–China. However, provisions regarding bilateral consultations to address doubts and seek clarifications have never been exercised. Remedying this requires sustained dialogue and commitment among both the political and military hierarchies in all the three countries to keeping communication channels open.

Today the dialogues are frozen, and mistrust has grown. So, we need to begin somewhere and for that, the mind-set needs to change. That is the real challenge.

* This article is based on a Working Paper Submitted for APLN-Toda Peace Institute's Collaborative Project "Managing the China-India-Pakistan Nuclear Trilemma".

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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