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Contemporary Challenges

to Nuclear Deterrence in South Asia

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Pakistan's nuclear weapons capability has played a crucial role in deterring India from waging war. Deterrence maintains a fragile stability because India is rapidly modernizing its military and is being propped up by the United States as the "net security provider" in the Asia Pacific region. These strategic developments are becoming a source of insecurity beyond South Asia. With added confidence, India has engaged in irresponsible behavior, such as surgical strikes and brinkmanship during crises. India has been signaling the resumption of nuclear testing, shedding ambiguity in its No First Use doctrine, and adopting a pre-emptive nuclear strike posture. The growing asymmetry in conventional and strategic domains is increasing instability in nuclear deterrence. These factors would increase Islamabad's security dilemma. This study elaborates on the challenges Indian postures pose to stable deterrence in South Asia and measures the West, especially the United States, can take to avoid disturbing the region's balance.

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Introduction

Deterrence has played in the psychological domain for ages and also prevails in the nuclear weapons age.³ The threat of using nuclear weapons can create a psychological impact on adversaries, deterring them from engaging in war that might escalate to nuclear level. Paradoxically, some states continue to take the risk of engaging in proxy wars, assuming that these would not cross the nuclear threshold.

Nuclear deterrence works on mutual vulnerability and fear of nuclear use that could lead to Mutually Assured Destruction (MAD). There are two perspectives on understanding the concept of deterrence. One believes that the futility of winning a nuclear war mandates its prevention at all costs. This implies a tacit understanding that if two or more nuclear-armed states are capable of inflicting unacceptable damage on each other, neither will risk initiating a nuclear conflict. This suggests space for some types of non-nuclear wars under the nuclear overhang. The second perspective is the conservative paradigm that there is no space for war – not just nuclear war – between nuclear powers.

Nuclear deterrence prevents a massive non-nuclear attack on a state's territory while also deterring the adversary from resorting to nuclear weapons in the event of conflict.⁴ In the context of South Asian region, nuclear deterrence has been a factor of stability, a fact that both India and Pakistan have mutually accepted. Over the years, nuclear deterrence has prevented a full-scale conventional war between the two nuclear arch-rivals despite the emergence of many crises from

3. McGwire, Michael. "Nuclear Deterrence." *International Affairs*, Vol. 82, No. 4, July 2006, pp. 771-784.

4. Tertrais, Bruno. "Principles of Nuclear Deterrence and Strategy." NATO Defense College Research Paper, No.19, May 2021.

Twin Peak (2001-02) to the Kashmir crisis of February 2019.⁵ This might be attributed to the risk of MAD between both.

However, the 2019 Kashmir crisis was unique in a way that, after nuclearization, Pakistan and India were, for the very first time, involved in a conventional aerial fight that led to the downing of two Indian fighter jets and the capturing of one pilot by Pakistan.⁶ This crisis could have escalated to higher levels had Pakistan not shown restraint.

That crisis was a source of questions about the emerging threats to strategic stability. India continues to push the region toward a crisis with the potential of leading to a nuclear war. This paper examines the contemporary challenges to South Asian nuclear deterrence and explores means to mitigate these challenges.

Challenges to Nuclear Deterrence

Challenges to nuclear deterrence have been a persistent concern in the South Asian region. Pakistan has consistently played a crucial role in preventing these challenges from escalating crises to nuclear levels. Likewise, new challenges to deterrence stability are emerging, primarily attributed to Indian irresponsible behavior. Yet again, Pakistan has undertaken the responsibility of preserving deterrence stability amidst these emerging challenges. Against this backdrop, some new challenges confronting South Asian nuclear deterrence that underpin the complexities and nuances of the regional security landscape have been highlighted.

Propping-up India as a Net Security Provider

The world is witnessing a great power competition, with the US, China, and Russia as its leading players. The US National Defense and Security Strategies of 2022⁷ designate China as

5. Hassan, Imran. "Nuclear South Asia: Three Years after the February 2019 Kashmir Crisis." South Asian Voices, February 28, 2022. <https://southasianvoices.org/nuclear-south-asia-three-years-after-the-february-2019-kashmir-crisis/>.

6. Hashim, Asad. "Pakistan shoots down two Indian fighter jets: Military." Al Jazeera, February 27, 2019. <https://www.aljazeera.com/news/2019/2/27/pakistan-shoots-down-two-indian-fighter-jets-military>.

7. "National Security Strategy 2022, White House." October 12, 2022. <https://>

the most serious and comprehensive challenge to US national security and highlights “China’s aggressive efforts” to reshape the Asia Pacific region and the international system. China stands out as the sole competitor with both the intent and all the wherewithal to reshape the international order.⁸

The US strategy toward China is threefold; “invest, align, and compete.”⁹ This strategy entails increasing competitiveness and aligning Washington’s efforts with its allies globally to counterbalance China. This strategy has led to the formation of new alliances such as the Quadrilateral Security Dialogue (Quad) – comprising the US, Australia, Japan, and India – and the AUKUS partnership between Australia, the UK, and the US. India’s involvement in the US strategy of countering China is worrisome for the South Asian region.

Under this approach of positioning India as a counterweight to China, the West and the US are creating conditions for India to build its military capabilities. Under the US-India strategic partnership, India was given a Nuclear Suppliers Group (NSG) waiver in 2008. The waiver allowed New Delhi to enter into nuclear agreements with multiple countries¹⁰ without the obligation of acceding to the Nuclear Non-Proliferation Treaty (NPT) as well as the NSG. Consequently, India has vertically proliferated after signing these agreements without shouldering any responsibilities.

www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf; “National Defense Strategy 2022, Department of Defense, 27 Oct 2022. <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>.

8. “National Security Strategy 2022, White House.”

9. “National Security Strategy 2022.”

10. Mohan, Pulkit. Agarwal, Pallav. “India’s Civil Nuclear Agreements: A New Dimension in India’s Global Diplomacy.” ORF Issue Brief No. 320, October 2019. https://www.orfonline.org/research/india-civil-nuclear-agreements-new-dimension-india-global-diplomacy/#_ednref1.

India was designated as a “Major US Defense Partner” in 2016.¹¹ Subsequently, in 2018, it was given Strategic Trade Authorization Tier-1 status,¹² granting India access to a broad spectrum of American and other Western military and dual-use technologies.¹³ Other strategic export control cartels were also opened for India.

The US-India strategic partnership is based on the foundation of security and technological cooperation in four agreements, i.e., Defense Technology and Trade Initiative (DTTI), Logistics Exchange Memorandum of Agreement (LEMOA), Communications Compatibility and Security Agreement (COMCASA), and Basic Exchange and Cooperation Agreement (BECA).¹⁴ These agreements, whose details are not public, shall augment India’s military readiness, situational awareness and capability for planning precision strikes. India also secured a waiver from the Countering America’s Adversaries through Sanctions Act (CAATSA), which is responsible for imposing sanctions on countries procuring Russian military equipment.¹⁵ Consequently, India acquired three S-400 air defense systems from Russia without facing any restrictions or sanctions.¹⁶ India

11. Lange, Katie. “Why India is Important to U.S. Defense.” US Department of Defense, January 7, 2019. <https://www.defense.gov/News/Feature-Stories/Story/Article/1727445/why-india-is-important-to-us-defense/>.

12. “US Security Cooperation with India.” US Department of State, last modified January 20, 2021. [https://www.state.gov/u-s-security-cooperation-with-india/#:~:text=Since%202015%2C%20the%20United%20States,U.S.%20Munitions%20List%20\(USML\)](https://www.state.gov/u-s-security-cooperation-with-india/#:~:text=Since%202015%2C%20the%20United%20States,U.S.%20Munitions%20List%20(USML).).

13. “US Security Cooperation with India.”

14. Ali, Samran. “Indo-US Foundational Agreements: Contributing to India’s Military Capabilities.” Centre For Strategic And Contemporary Research, December 18, 2020: 1-6. <https://cscr.pk/pdf/perspectives/Indo-US-Foundational-AgreementsContributing-to-India%E2%80%99s-Military-Capabilities.pdf>.

15. “US House approves CAATSA sanctions waiver to India for purchase of S-400 missile defense system from Russia.” The Economic Times, July 15, 2022. <https://economictimes.indiatimes.com/news/defence/us-house-votes-for-india-specific-caatsa-waiver/articleshow/92890576.cms>.

16. “Russia delivers third S-400 system to India.” Janes, March 2, 2023. <https://www.janes.com/defence-news/news-detail/russia-delivers-third-s-400-system-to-india>.

has also been buying cheap Russian oil despite US pressure on countries to refrain from economic dealings with Moscow due to its invasion of Ukraine.¹⁷

India has purchased 36 dual-capable Rafale aircraft from France.¹⁸ It has approved the purchase of an additional 26 French marine Rafale jets along with three Scorpene-class submarines from France.¹⁹ The support from Western and European countries has contributed to India's military buildup, aiming to position it strongly in the regional security architecture. This extensive military buildup undermines nuclear deterrence in South Asia and creates a security dilemma for Pakistan. The induction of air defense systems, nuclear-capable fighter aircraft, and nuclear submarines have fueled India's hegemonic ambition and given its leadership a false sense of security. These factors are sources of increasing nuclear risk.

Belligerence and Brinkmanship

Belligerent rhetoric, which includes aggressive and hostile language, threats, and posturing, can significantly impact nuclear deterrence between Pakistan and India. On 26 July 2023, during a speech in Ladakh, Indian Defense Minister Rajnath Singh stated that "India is ready to cross Line of Control (LoC)..."²⁰ Likewise, on 26 June 2023, while delivering a keynote address on Indian national security in Jammu and Kashmir, he stated that "we do not need to work much to take

17. "India's Russia oil imports jumped tenfold in 2022, bank says." BBC, May 11, 2023. <https://www.bbc.com/news/business-65553920>.

18. "The pack is complete, says IAF as last of 36 Rafale jets land in India." Business Standard, December 15, 2022. https://www.business-standard.com/article/current-affairs/the-pack-is-complete-says-iaf-as-last-of-36-rafale-jets-land-in-india-122121500741_1.html.

19. "India gives initial approval for purchase of French fighter jets and submarines." France 24, July 13, 2023. <https://www.france24.com/en/asia-pacific/20230713-india-gives-initial-approval-for-purchase-of-french-fighter-jets-and-submarines>.

20. "If need arises, will cross LoC: Defence Minister Rajnath Singh in Kargil." The Hindu, July 26, 2023. <https://www.thehindu.com/news/national/india-ready-to-cross-loc-to-maintain-its-honour-rajnath-singh/article67122317.ece>.

[Azad Jammu and] Kashmir as the demand for uniting with India will start from there only.”²¹

Similarly, while speaking in Srinagar on 27 Oct 2022, Singh stated that “India’s goal of all-around development in the two union territories of Jammu and Kashmir and Ladakh will be achieved after reaching Gilgit and Baltistan [in Pakistan].”²² In response to this statement, an Indian Corps Commander said that Indian Army is “fully prepared and ready for any action on orders from the government.”²³ Such irresponsible statements by Indian officials are worrisome considering the prevailing regional security environment.

Furthermore, Indian Prime Minister Narendra Modi stated during an election rally on 21 April 2019 that “Pakistan announced it would return the pilot on the second day, else it was going to be a *qatal ki raat* (the night of murder).”²⁴ He was referring to the captured Indian pilot, whose plane was shot down by a Pakistani fighter pilot during an aerial dog fight in 2019.²⁵ He also referred to a senior American official’s statement that “he (Modi) has kept ready twelve missiles, he might attack, and the situation will deteriorate.”²⁶

21. “Rajnath tells Pakistan: Don’t need to work much to take back Pakistan occupied Kashmir.” The Indian Express, June 27, 2023. <https://indianexpress.com/article/india/pm-modi-india-us-statement-pakistan-terrorism-rajnath-singh-8686711/>.

22. “At Kashmir event, Rajnath Singh’s piercing Gilgit-Baltistan warning to Pakistan.” Hindustan Times, October 27, 2022. <https://www.hindustantimes.com/india-news/at-kashmir-event-rajnath-singh-stings-pakistan-with-gilgit-baltistan-comment-101666863466530.html>.

23. “Ready For Action”: Army Commander On Rajnath Singh’s Gilgit-Baltistan Comment.” NDTV, November 1, 2022. <https://www.ndtv.com/india-news/ready-for-action-army-commander-on-rajnath-singhs-gilgit-baltistan-comment-3478555>.

24. “Cannot Comment on Operational Details: MEA on PM’s ‘Qatal ki Raat’ Remarks.” The Wire, May 3, 2019. <https://thewire.in/diplomacy/narendra-modi-mea-qatal-ki-raat>.

25. Hashim, Asad. “Pakistan shoots down two Indian fighter jets: Military.” Aljazeera, February 27, 2019. <https://www.aljazeera.com/news/2019/2/27/pakistan-shoots-down-two-indian-fighter-jets-military>.

26. Pakistan shoots down two Indian fighter jets: Military.”

Contrarily, Pakistan restored peace through restraint and responsible behavior and has at times “[counseled] India to exercise utmost caution as its belligerent rhetoric is a threat to regional peace and stability and contributes to destabilizing the strategic environment in South Asia.”²⁷

Such belligerence increases strategic instability²⁸ and the risk of escalation to a nuclear conflict. When nuclear weapons states give threats and engage in aggressive language, mutual trust, and vulnerability can erode, and misinterpretation of signaling leads to nuclear war. Mutual vulnerability builds deterrence, but poor signaling increases distrust and can lead to inadvertent war. The threatened state may not differentiate between rhetoric and actual intent, and that ambiguity can lead to the use of nuclear weapons.

Belligerent rhetoric can potentially compel the states to adjust their nuclear postures in response to such statements, provoking a consequential arms race. Belligerent rhetoric attempts to establish escalation dominance, where one state believes it can control the escalation ladder and coerce the other side into submission. India is contemplating a similar approach. However, such thinking is fraught with danger and unintended consequences.

Surgical Strikes

According to the Indian media, on 28 September 2016, the Indian Army launched a so-called surgical strike against alleged terrorist camps in Azad Jammu and Kashmir (AJ&K) territory.²⁹ It is alleged that the Indian troops, alongside commandos from

27. “Pakistan Condemns the Provocative Remarks Made by India’s Defence Minister.” MoFA, July 26, 2023. <https://mofa.gov.pk/pakistan-condemns-the-provocative-remarks-made-by-indias-defence-minister/>.

28. “Pakistan Condemns the Provocative Remarks.”

29. “Surgical strike day: Here’s how the 2016 operation was carried out.” Hindustan Times, September 29, 2021. <https://www.hindustantimes.com/india-news/surgical-strike-day-here-s-how-the-2016-operation-was-carried-out-101632882272993.html>.

various Special Forces units, conducted cross-border raids on multiple targets.³⁰ The phantom strike was a response to Uri, an Indian Army's base in Indian Illegally Occupied Jammu and Kashmir (IIOJ&K). Pakistan stated that "the notion of surgical strike linked to alleged terrorist bases is an illusion being deliberately generated by India to create false effects. There had been cross-border fire initiated and conducted by India, which is an existential phenomenon."³¹ Therefore, Pakistan Army denounced the Indian claims that its soldiers infiltrated the LoC and instead stated that it was a cross-border firing incident which led to the martyrdom of two Pakistani soldiers.³²

Similarly, on 14 February 2019, forty personnel of Indian occupation forces were killed when a vehicle was targeted by a Kashmir freedom fighter at Lethpora in the Pulwama District.³³ Considered a false flag operation by many in India, this attack paved the way for Indian establishment for the necessary grounds to launch another ghost surgical strike.

Blaming the attack on Jaish-e-Muhammad (JeM), during the early hours of 26 February 2019, the Indian Air Force (IAF) breached Pakistan's airspace along the Line of Control (LoC) and purportedly struck what they claimed as the JeM headquarters in the mountainous terrain of Balakot in the Khyber Pakhtunkhwa Province of Pakistan. Nonetheless, there was no evidence of Jaish presence, and despite using expensive and highly praised Spice 2000 smart bombs of Israeli origin, India failed to inflict any human casualties beyond ecological damage.³⁴

30. "Surgical strike day."

31. "Army rubbishes Indian 'surgical strikes' claim as two Pakistani soldiers killed at LoC." Dawn, September 29, 2016. <https://www.dawn.com/news/1286881>.

32. "Army rubbishes Indian 'surgical strikes' claim as two Pakistani soldiers killed at LoC."

33. "Kashmir attack: Tracing the path that led to Pulwama." BBC, May 1, 2019. <https://www.bbc.com/news/world-asia-india-47302467>.

34. "No Pakistani soldier, citizen killed in air strike: Sushma." Dawn, April 19, 2019. <https://www.dawn.com/news/1477068/no-pakistani-soldier-citizen-killed-in-air-strike-sushma>.

The day-long celebrations across India were swiftly overshadowed the following day when the Pakistan Air Force (PAF) carried out retaliatory strikes on strategically chosen targets along the LoC. The IAF received a bloody nose. Two of its fighter aircraft, a MiG-21 Bison and a Russian top-line multirole Su-30, were downed by the PAF, and an Indian pilot was also detained for forty-eight hours.³⁵

India's reckless act of aggression, characterized as a pre-emptive non-military strike, brought the two neighboring countries to the edge of a nuclear confrontation, carrying unprecedented global ramifications. The possibility of a nuclear-armed state conducting an unprovoked and premeditated precision strike using its conventional forces within another state's territory, thus inciting counterretaliation, represents one of the most perilous and irresponsible actions in nuclear history if taken at face value. Islamabad's measured response helped maintain deterrence stability and averted escalation.

Resumption of Nuclear Testing

There are indicators that if a favorable environment emerges, India might consider resuming nuclear testing involving a thermonuclear test. As said by an Indian national security professional, "a senior Defense Research and Development Organization (DRDO) official involved in the nuclear testing, some six months after the May 1998 tests, recommended resumption of testing to the government because he was convinced that a hydrogen bomb test was inadequate for developing simulation software and designing performance-capable thermonuclear weapons."³⁶

35. "Pakistan shoots down two Indian fighter jets: Military." Aljazeera, February 27, 2019. <https://www.aljazeera.com/news/2019/2/27/pakistan-shoots-down-two-indian-fighter-jets-military>.

36. Commentary. "India Must Revive Its Nuclear Testing Program If it is to Offer China A Credible Deterrent." Indian Defense News. <https://www.indiandefense-news.in/2021/06/india-must-revive-its-nuclear-testing.html>.

A Centre for Air Power Studies researcher observed that “India should not stop nuclear tests but carry on with Pokhran-like tests till the point a reliable, proven, safe thermonuclear arsenal is attained.”³⁷ Most recent is the statement that “India’s decision to resume nuclear testing, if and when it occurs, will be necessary to perfect its fusion weapon designs and credibly communicate that it possesses the requisite capability to deter Beijing in the context of what may be deeply intensifying Sino-Indian [and possibly US-China] strategic rivalries.”³⁸ These statements indicate that India is testing waters and gauging international and regional reactions to its possible nuclear testing.

India’s quest to resume nuclear testing may be driven by technical requirements. This is because the induction of “new smaller systems – like Prahaar, Brahmos, and K-4 – and prospective missiles capable of carrying Multiple Independently Targetable Reentry Vehicles (MIRVs) would require significant miniaturization of warheads.”³⁹ If India resumes nuclear testing, it will seriously disturb the nuclear equation in South Asia and may prompt Pakistan to think of a suitable counter-response to restore strategic stability in the region.

Nuclear Delivery Systems

The modernization of India’s nuclear triad is a continuous process. It has 18 types of nuclear-capable missiles, including ballistic and cruise missiles, that can be launched from land, air, and sea platforms.⁴⁰

37. “India Must Revive Its Nuclear Testing Program.”

38. Tellis, Ashley. “Striking Asymmetries: Nuclear Transitions In Southern Asia.” Carnegie Endowment for International Peace, 2022, pp 254-255. https://carnegieendowment.org/files/202207-Tellis_Striking_Asymmetries-final.pdf.

39. Khan, Sameer Ali. “Trump’s Brinkmanship on Nuclear Testing.” Strafasia, June 24, 2022. <https://strafasia.com/trumps-brinkmanship-on-nuclear-testing/>.

40. “Missiles of India.” Missile Threat, CSIS Missile Defence Project. <https://missilethreat.csis.org/country/india/>; Kristensen, Hans M. Korda, Matt. “Nuclear Notebook: How many nuclear weapons does India have in 2022?” Bulletin of Atomic Scientists, July 11, 2022. <https://thebulletin.org/premium/2022-07/nuclear-notebook-how-many-nuclear-weapons-does-india-have-in-2022/>; Haider, Ejaz. “Missiles and Machinations: Dealing with India’s Threat.” Dawn, November 5, 2023. <https://www.dawn.com/news/1786490>.

India's ground-launched ballistic missiles are Prithvi-I (150 kilometers), Prithvi-II (350 kilometers), Agni-I (700-1200 kilometers), Agni-II (2000-3500 kilometers), Agni-III (3000-3500 kilometers), Agni-IV (3000-4000 kilometers), Agni-V (8000 kilometers), Agni-P (1000-2000 kilometers), Prahaar (150 kilometers), Paralay (500 kilometers) and Shaurya (750 kilometers). Its ground-launched cruise missiles are Nirbhay (800-1000 kilometers) and BrahMos (300-450 kilometers). India's air-launched cruise missile is BrahMos. India also operates a ship-launched ballistic missile named Dhanush (400 kilometers) and submarine-launched ballistic missiles (SLBM) K-15 (700 kilometers) and K-4 (3500 kilometers).

Moreover, according to statements from senior Indian defense officials, India's DRDO is considering the development of a submarine-launched ballistic missile (SLBM) with a range of 5000 kilometers. This SLBM would mirror the design of the land-based Agni-V missile, enabling Indian submarines to target regions spanning across Asia, parts of Africa, Europe, and the Asia Pacific, including the South China Sea (SCS).⁴¹

Indian aircraft Mirage 2000 H, Jaguar IS, Su-30, and Rafale can be used for nuclear roles. India's first indigenous nuclear-powered ballistic missile submarine (SSBN), INS Arihant, completed its first deterrence patrol in November 2018, officially marking the completion of India's nuclear triad.⁴² A second SSBN, the INS Arighat (previously intended to be named Aridhaman), was launched on 19 November 2017 and is likely to be inducted in 2024.⁴³ Two more SSBNs will follow the Arighat, temporarily designated S4 and S4*.

41. "Nuclear Notebook: How many nuclear weapons does India have in 2022?"

42. "India's nuclear triad is complete with INS Arihant ending its first deterrence patrol." *The Hindu*, November 5, 2018. <https://www.thehindu.com/news/national/ins-arihant-completes-deterrence-patrol-india-declares-nuclear-triad-operational/article25425436.ece>.

43. Singh, Abhijit. "India's nuclear triad: still a work in progress." ORF, May 10, 2023. <https://www.orfonline.org/expert-speak/indias-nuclear-triad-still-a-work-in-progress/>.

S4 was launched in November 2022⁴⁴ and S4* in 2023.⁴⁵ India is also in the process of developing its next-generation SSBNs, known as the S-5 class.⁴⁶

After becoming a member of the Missile Technology Control Regime (MTCR) in 2016, India is extending the ranges of its missiles.⁴⁷ For instance, BrahMos is a joint venture between India and Russia. The range of the BrahMos missile system was deliberately kept at 290 kilometers, i.e., just 10 kilometers under the range allowed by the MTCR. However, that has changed with India becoming a member of the MTCR. After getting MTCR membership, India has extended the range from 290 to 450 kilometers and is planning to stretch the range to 800 kilometers as verified in news. The DRDO also intends to increase the range of cruise missile Nirbhay from 1000 to 1500 kilometers.⁴⁸ Cruise missiles are well suited for a counterforce role due to their accuracy and can be deployed to target storage sites, command and control centers, radar installations, and bases. This membership is also helping India to put its Ballistic Missile Defense (BMD) program and space weapons ambition on a fast track.

India has also been working on MIRVing and the canisterization of its nuclear missiles.⁴⁹ These two developments with assured

44. "Third Arihant class submarine quietly launched in November." The Hindu, January 4, 2022. <https://www.thehindu.com/news/national/andhra-pradesh/third-arihant-class-submarine-quietly-launched-in-november/article38103275>. ece.

45. "INS Arighat induction set, S-4* to get quiet launch." Indian Defence Research Wing, December 1, 2022. <https://idrw.org/ins-arighat-induction-set-s4-to-get-quiet-launch/>.

46. "Nuclear Notebook."

47. Haider, Usman. "How the Extended Range BrahMos Changes the India-Pakistan Deterrence Equation." The Diplomat, November 7, 2023. <https://thediplomat.com/2023/11/how-the-extended-range-brahmos-changes-the-india-pakistan-deterrence-equation/>.

48. "Nirbhay cruise missile test-fired; indigenous engine a success, say officials." Hindustan Times, August 11, 2021. <https://www.hindustantimes.com/india-news/nirbhay-cruise-missile-test-fired-drdo-says-indigenous-engine-a-success-101628656458294.html>.

49. "Missiles and Machinations: Dealing with India's Threat."

second-strike capability will provide India with greater flexibility and potency in its nuclear deterrence. India's second-strike capability creates instability in the region unless the other side has the same capability. Under the confidence of having an assured second-strike capability, India will be willing to fight conventional conflict, knowing that they can respond to any Pakistani first nuclear strike because of their assured second-strike capability. This will lower the nuclear threshold in the region and could escalate the crisis to the nuclear level.

Nuclear Command and Control

On 9 March 2022, an Indian BrahMos cruise missile entered Pakistani air space and traveled 124 kilometers inside for three minutes and 44 seconds before crashing.⁵⁰ Two days after the incident, the Indian side issued a statement mentioning "in the course of a routine maintenance, a technical malfunction led to the accidental firing of a missile" saying that the incident was "regrettable."⁵¹ However, such a generic explanation from a nuclear-armed rival state with history of prolonged crises, wars and recent theft of nuclear materials is questionable.

This incident seriously threatened the air space through which it traveled. Pakistan had asked for a joint probe into the incident, demanding clarifications from India over its safety mechanism to prevent accidental missile launches. The explanation offered by the Indian Ministry of Defense regarding the firing of a missile was not satisfactory at all. It seemed to be an attempt to play down the incident and avoid debate on mishandling of a sensitive weaponry by India.

This incident showed India's irresponsible behavior by not informing Pakistan about the errant missile despite the presence of the Director General of Military Operations (DGMO)

50. "India to explain what happened in Mian Channu, DG ISPR after Indian projectile falls in Pakistan." Dawn, March 10, 2022. <https://www.dawn.com/news/1679289>.

51. Kimball, Daryl G. "India Accidentally Fires Missile Into Pakistan." April 2022, Arms Control Association. <https://www.armscontrol.org/act/2022-04/news/india-accidentally-fires-missile-into-pakistan>.

hotline. It also indicates two things: the BrahMos missile is not technically advanced enough to be effectively deployed, or the Indian military cannot operate this missile system. Either way, it is a cause of grave concern for Pakistan as it could have dire consequences for strategic stability in the region.

The cruise missile incident also revealed a profound level of incompetence in the Indian forces when it comes to handling sensitive weaponry, suggesting a shortage of adequately trained personnel to manage military equipment even during peacetime. The seriousness of the incident raises important questions about the effectiveness of India's security protocols and technical safeguards in preventing accidental or unauthorized missile launches. Hence, all these concerns highlight the non-credibility of Indian nuclear command and control (NC2), putting deterrence stability at risk.

So-Called No First Use

In its nuclear doctrine, India maintains a so-called posture of NFU policy. However, this policy is conditional. India's nuclear doctrine of 2003 also states that "in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons."⁵²

Such a policy raises questions about the credibility of India's NFU, as there are conditions attached to it. However, there has been an ongoing debate in academic circles regarding the total abandonment of this NFU policy. India's former National Security Advisor (NSA) Shiv Shankar Menon mentioned in his book, *Choices: Inside the Making of India's Foreign Policy*, that "circumstances are conceivable in which India might find it useful to strike first, for instance against a nuclear weapon state that had declared it would certainly use its weapons and if India was certain that attack was imminent." Similarly, former

52. "Cabinet Committee on Security Reviews Progress in Operationalizing India's Nuclear Doctrine." PIB, Jan 4, 2003. <https://archive.pib.gov.in/archive/releas-es98/lyr2003/rjan2003/04012003/r040120033.html>.

Indian Defense Minister Manohar Parrikar stated in 2016 that “it would be sufficient for India to maintain that it would use its weapons responsibly rather than being tied down to the NFU policy.”⁵³

There have been other related opinions and statements about India abandoning its NFU. Taking this development in conjunction with India’s development of its counter-force weapons, canisterization of missiles, investment in space-based surveillance, and intelligence and reconnaissance capabilities, it is a clear indication of a potential pre-emptive nuclear strike in a crisis against Pakistan. This will only create doubts among Pakistan’s policymakers about India’s intentions and may lead to a use-it or lose-it dilemma, undermining nuclear deterrence.

Fastest Growing Nuclear Program

India’s vastly expanding fissile material production capacity is another primary concern. The 2016 book, *Indian Unsafeguarded Nuclear Program: An Assessment*, estimated that India had sufficient material and technical capacity to produce between 356 and 492 plutonium-based nuclear weapons. India’s Highly-Enriched Uranium (HEU)-based nuclear warheads are beside this estimate. Another study at Harvard University by Dr Mansoor Ahmed estimates that India has a capacity to produce up to 2,686 weapons.⁵⁴

Moreover, in 2018, research conducted by Saddam Hussain and Dr Javed Khurshid published in the *Bulletin of Atomic Scientists* estimated that “India could produce 1,044 nuclear weapons (914 plutonium-based and 130 uranium-based nuclear weapons), if one includes reactor grade materials from

53. “Manohar Parrikar questions India’s no-first-use nuclear policy, adds ‘mythinking.’” *The Indian Express*, November 11, 2016. <https://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/>.

54, Ahmed, Mansoor. “India’s Nuclear Exceptionalism: Fissile Materials, Fuel Cycles, and Safeguards.” Discussion Paper, Project on Managing the Atom, Belfer Center, May 2017. <https://www.belfercenter.org/sites/default/files/files/publication/India%27s%20Nuclear%20Exceptionalism.pdf>.

non-military programs in India, as well as that from the country's weapon-grade nuclear material production program.”⁵⁵ With this nuclear warhead making capacity, nuclear equilibrium between India and Pakistan will be significantly disturbed, forcing Pakistan to increase its nuclear stockpile to maintain the equilibrium.

Emerging Technologies

The Indian military is considering the use of Artificial Intelligence (AI) in mechanized warfare, particularly for Pakistan-centric Southwestern Command in Rajasthan's desert region, with a projected timeline of implementation within the next five years.⁵⁶ A dedicated task force is being established in India to investigate various pathways toward achieving AI capabilities. This task force comprises members from the DRDO, Atomic Energy Commission (AEC), Indian Space Research Organization (ISRO), and the national cyber security coordinator.

Apart from major defense organizations, the task force encompasses individuals from significant academic and research establishments, with leadership provided by the chairman of an Indian corporate giant, Tata Sons. The task force has pinpointed AI's critical roles in both defensive and offensive capacities across biological, cyber, and nuclear warfare realms. Additionally, it explores AI's transformative possibilities within the land, air, and maritime domains.

Israel Aerospace Industries (IAI) signed a memorandum of understanding (MoU) with Dynamitic Technologies Limited (DTL) and Hindustan Aeronautics Limited (HAL) in February 2020. The primary aim of this strategic collaboration is to facilitate technology transfer for enhancing domestic manufacturing

55. Hussain Shah, Syed Sadam. Khurshid, Syed Javaid. “Estimating India's nuclear weapons-producing capacity.” *Bulletin of Atomic Scientists*, November 2, 2018. <https://thebulletin.org/2018/11/estimating-indias-nuclear-weapons-producing-capacity/#post-heading>.

56. Peri, Dinakar. “Army to Deliberate on Using AI For Mechanized Forces.” *The Hindu*, September 21, 2019. <https://www.thehindu.com/news/national/army-to-deliberate-on-using-ai-formechanised-forces/article29472934.ece>.

capabilities and to supply around 100 Heron TPUAVs to India.⁵⁷

India, in partnership with Russia, is involved in the development of a hypersonic cruise missile. The intensified focus on establishing a deterrent against Chinese capabilities has led to a greater emphasis on the pursuit of hypersonic cruise missile technology by India.⁵⁸ India's ongoing testing of the Hypersonic Technology Demonstrator Vehicle (HSTDV) is indicative of efforts to counter technological advancements in China and to ensure India's capability to penetrate air defenses in the event of a conflict.⁵⁹ The HSTDV capability will help India in its upcoming space projects and Inter-Continental Ballistic Missiles (ICBMs).

Indian Anti-Satellite Weapons (ASAT) test has caused global concern, raising legitimate fears that it could provoke other states to conduct similar tests, potentially generating additional space debris.⁶⁰ The Indian demonstration resulted in approximately 400 fragments, of which around 270 are currently being monitored, with prolonged decay times.⁶¹

The Indian ASAT test was driven by Modi's domestic political imperatives during an election year.⁶² Such a test is a destabilizing development and runs counter to the efforts being made by responsible nations to avoid space weaponization. The muted reaction by the international community toward the Indian

57. Pubby, Manu. "Government Approves US\$400-million Plan to Procure Armed Heron TP Drones from Israel." *Economic Times*, July 18, 2018. <https://economictimes.indiatimes.com/news/defence/government-approves-400-million-plan-to-procure-armed-heron-tp-drones-fromisrael/articleshow/48906195.cms>.

58. Davenport, Kelsey. "India Tests Hypersonic Missile, Arms Control Association." October 2020. <https://www.armscontrol.org/act/2020-10/news/india-tests-hypersonic-missile>.

59. Wright, Timothy. "India claims to successfully test hypersonic scramjet." IISS, September 23, 2020. <https://www.iiss.org/online-analysis/online-analysis//2020/09/mdi-india-claims-to-successfully-test-hypersonic-scramjet>.

60. Tellis, Ashley J. "India's ASAT Test: An Incomplete Success." *Carnegie*, April 15, 2019. <https://carnegieendowment.org/2019/04/15/india-s-asat-test-incomplete-success-pub-78884>.

61. "India's ASAT Test: An Incomplete Success."

62. "India's ASAT Test."

ASAT test was again a reflection of how the US and its allies are willing to look the other way from India's global space ambition. Likewise, the press release issued by the White House,⁶³ while announcing its unilateral Direct Ascent-ASAT moratorium, did not mention India's ASAT test as a threat and conspicuously excluded its name from the list of states that have tested ASAT missiles.

Propositions for the West

The West and the US must understand that their support for India under the strategic partnership to counter China's rise may have adverse consequences, not only for regional countries but also for the US itself. India has consistently demonstrated its independent foreign policy stance, indicating it will not conform to expectations set by the US.

While benefiting from support and favors from the US and other Western countries in the guise of becoming a counterweight to China, India is concurrently expanding its trade and sociocultural partnerships with China. The annual China-India trade currently amounts to USD 135 billion. Notably, the recent India-China border clashes did not escalate beyond skirmishes involving stones and sticks.

Indian External Affairs Minister Subrahmanyam Jaishankar argued in his book, *The Indian Way: Strategies for an Uncertain World*, that US-China competition may create challenges for India, but the latter should get leverage out of this competition. This indicates that India is not interested in becoming a US lead or frontman in fulfilling its goals and ambitions.

For regional and global peace, the US must reevaluate its strategy for India before it becomes too late. The US should focus on creating a conducive environment in different regions of the world that promotes inclusiveness and dispute resolution.

63. "Fact Sheet: Vice President Harris Advances National Security Norms in Space." The White House, April 18, 2022. <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/18/fact-sheet-vice-president-harris-advances-national-security-norms-in-space/>.

Such an approach will not only elevate the standing of the US but also contribute to maintaining its global image and influence.

Options for India

To become an economic giant like China, India will have to give up its unsuccessful policy of submitting force and degrading its neighboring countries. A state aspiring for economic rise requires maintaining good relations with neighboring states. Therefore, India should give up its policy of becoming a regional policeman and work on regional connectivity, dispute resolution, and trust-building to become a thriving economic powerhouse. It is in India's interests and will help achieve regional peace and stability.

Pakistan is always ready for talks with India with the ultimate objective of dispute resolution. Amicable resolution of all disputes between India and Pakistan can lead to regional peace. However, at the same time, Pakistan should also keep its security intact by taking all necessary measures concerning India's conventional and nuclear military developments.

Conclusion

Nuclear deterrence in South Asia is hanging on a thin thread that can break at any time due to India's hegemonic and irresponsible policies. The West, in general, and the US in particular, are also contributing to creating a disturbed nuclear environment in the region. Under their policy of countering China, India has received preferential treatment. With the help of the West, India is building its nuclear and conventional military without any hindrance. It is getting waivers and favors from the US, leading New Delhi to fully exploit its central position in countering China's rise. In addition, India has adopted policies at the regional level which are detrimental to peace and stability. It is behaving irresponsibly as a nuclear weapon state, involved in nuclear brinkmanship, increasing its nuclear arsenal both quantitatively and qualitatively, and disregarding any initiative that can bring a semblance of peace in the region. This is disturbing nuclear

deterrence between Pakistan and India and creating challenges for Pakistan in maintaining strategic equilibrium.

Pakistan, as a responsible nuclear weapon state, has always supported peace, stability, and resolution of disputes in the region. Pakistan is not in favor of an arms race and has only acquired nuclear weapons to ensure its national security. India's aggressive posture and military modernization are an imminent threat to regional peace and stability. The international community should consider India's military modernization before bestowing India with the leverage it does not deserve. India's quest for regional hegemony and great power status will have regional and global repercussions.