Battlefield Lessons of Operation Sindoor

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Executive Summary

Operation Sindoor, a four-day limited clash in May 2025 that combined intense ground fighting along the Line of Control with a technologically sophisticated air-and-missile strike campaign, offers a rich set of battlefield lessons for modern limited-war planning.

Key findings include:

- **Intelligence, Deception, and Loitering Munitions Enabled Precision** — of intelligence, surveillance, and reconnaissance (ISR), combined with decoys and unmanned aerial vehicle (UAV)-based suppression of enemy air defenses (SEAD) supported accurate standoff strikes while limiting risk to manned aircraft.
- **Political Signaling vs. Force Protection** — Skipping early SEAD preserved escalation control but exposed aircraft; subsequent efforts to suppress air defenses and greater reliance on unmanned suppression improved survivability while maintaining message discipline.
- **Integrated Air Defense Strength amid UAV Probes** — Layered air-defense networks blunted missiles and drones, though coordinated low-altitude UAV probes taxed sensors and shooters.
- **Munition Depth Constraints under Sustained Tempo**— High operational tempo over four days highlighted the importance of precision-munitions depth, resilient support arrangements, and the ability to sustain joint operations under political time constraints.
- **Escalation Managed Through Bounded Punishment** — India sought to impose selective military costs while deliberately avoiding civilian and nuclear-adjacent targets, illustrating how calibrated strikes may impose visible costs under the nuclear shadow if thresholds are carefully respected.

Implications: Future conflicts in South Asia and beyond will be fought under intense observation, in contested information environments, and in close proximity to nuclear thresholds. Militaries will need to integrate kinetic and non-kinetic tools, sustain joint operations under political time constraints, and embed escalation control into operational design from the outset. For South Asia, this means investing in resilient command and control that can survive electronic attack and in ISR-to-strike networks fast enough to exploit fleeting targets. It also requires layered defenses against missiles and waves of low-altitude UAVs, alongside logistics and basing systems hardened and dispersed to absorb early strikes.

Introduction: Operation Sindoor and the Evolution of Limited War

The May 2025 confrontation between India and Pakistan—known in India as Operation Sindoor, a four-day limited conflict conducted under the nuclear shadow—marked the most sustained episode of overt cross-border force between these nuclear-armed rivals since the 1999 Kargil War. It involved multi-axis precision strikes, heavy artillery and missile fire, electronic warfare, and drone operations across multiple domains, marking an important inflection point in India's evolving approach to cross-border military operations. This chapter provides a battlefield-focused overview of the operation, analyzing calibrated use of coercive force under strict escalation ceilings, with political direction apparent in targeting choices.

The analytical lens is limited war under the nuclear umbrella. The paradox identified by Jervis and Snyder—that nuclear weapons deter large-scale war even as they enable frequent crises—frames South Asia's recurring pattern: Pakistani sub-conventional probes were met by India's limited conventional responses.[1] Earlier episodes like Kargil (1999) and Balakot (2019) exemplified this dynamic, underscoring both the rarity of outright war between nuclear-armed states and the frequency of crises short of war.[2]

Sindoor highlights how the mechanisms of limited war are changing under nuclear constraint, with UAVs, standoff strike, and ISR integration compressing escalation dynamics.[3] India launched sustained precision strikes despite Pakistan's nuclear arsenal—consistent with arguments that nuclear weapons do not always deter conventional challenges.[4] At the same time, both sides

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[1] Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Cornell University Press, 1989); Glenn Snyder, "The Balance of Power and the Balance of Terror," in Paul Seabury, ed., *The Balance of Power* (San Francisco, CA: Chandler Publishing Company, 1965); S. Paul Kapur, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford University Press, 2009). See also Kenneth N. Waltz and Scott Sagan, *The Spread of Nuclear Weapons: A Debate Renewed* (WW Norton, 2003) and Stephen Walt, "Nuclear Superiority Was a Meaningless Concept," *Foreign Policy* (August 3, 2010).

[2] Large-n studies confirm that nuclear dyads are less likely to escalate disputes into full-scale war, yet they are disproportionately prone to recurrent crises and escalation short of war. On the likelihood of escalating disputes, see Bruce Bueno De Mesquita and William H Riker, "An Assessment of the Merits of Selective Nuclear Proliferation," *Journal of Conflict Resolution* 26, no. 2 (1982); Robert Rauchhaus, "Evaluating the Nuclear Peace Hypothesis: A Quantitative Approach," *Journal of Conflict Resolution* 53, no. 2 (2009); Victor Asal and Kyle Beardsley, "Proliferation and International Crisis Behavior," *Journal of Peace Research* 44, no. 2 (2007). On the crisis-prone nature of relations, see Kyle Beardsley and Victor Asal, "Winning with the Bomb," *Journal of Conflict Resolution* 53, no. 2 (2009); Daniel S Geller, "Nuclear Weapons, Deterrence, and Crisis Escalation," *Journal of Conflict Resolution* 34, no. 2 (1990); Mark S Bell and Nicholas L Miller, "Questioning the Effect of Nuclear Weapons on Conflict," *Journal of Conflict Resolution* 59, no. 1 (2015).

[3] Mark S Bell and Julia Macdonald, "How to Think About Nuclear Crises (February 2019)," *Texas National Security Review* 2, no. 2 (2019).

[4] For more on the deterrence of conventional weapons by nuclear weapons, see John Mueller, "The Essential Irrelevance of Nuclear Weapons: Stability in the Postwar World," *International Security* 13, no. 2 (1988); AFK Organski and Jacek Kugler, *The War Ledger* (University of Chicago Press, 1980); Jacek Kugler, "Terror without Deterrence: Reassessing the Role of Nuclear Weapons," *Journal of Conflict Resolution* 28, no. 3 (1984); Dong-Joon Jo and Erik Gartzke, "Determinants of Nuclear Weapons Proliferation," *Journal of Conflict Resolution* 51, no. 1 (2007).

engaged in calibrated risk-taking and reciprocal signaling: Pakistan with waves of UAV incursions and missile salvos, India with deep strikes into Punjab—while relying on intra-war deterrence to keep the conflict bounded.[5] In this context, unmanned systems became a prominent escalatory channel, blurring thresholds between reconnaissance, harassment, and attack while compressing decision cycles.

What distinguished Sindoor was India's shift from episodic reprisals to a sustained, multi-day campaign. At a larger scale than in prior episodes, New Delhi fused suppression of enemy air defenses, electronic attack, and multi-source intelligence, surveillance, and reconnaissance with standoff precision fires. The aim was not decisive victory, but calibrated pressure beneath the nuclear threshold. This relied on close integration across domains—air operations, electronic warfare, and unmanned systems—to sustain pressure while preserving escalation discipline and reflects what this chapter terms a pattern of bounded punishment.

Bounded punishment is analytically distinct from several established forms of limited force. It is not symbolic reprisal, which relies on one-off raids to signal resolve without sustaining pressure, nor is it a denial campaign aimed at systematically degrading an adversary's war-fighting capacity through cumulative attrition. Instead, bounded punishment describes an operational logic in which coercive pressure is sought through tempo-compressed, sequenced precision strikes that deliberately constrain scope, duration, and target selection in order to manage escalation risk under the nuclear shadow. Such strategies are most feasible where both sides retain incentives for termination and where target selection can remain militarily salient but politically containable. This chapter does not claim that such an approach necessarily produces durable deterrence or behavioral change, and contemporary assessments differ on the coercive efficacy of standoff warfare. Rather, the contribution here lies in specifying the mechanisms through which Indian planners sought to translate standoff means into a form of sustained but bounded coercion, and in assessing how that operational logic shaped the conduct of Sindoor in practice.

Sindoor should be understood less as a settled doctrinal shift than as a crisis-driven adaptation. Even so, it signals a potentially important change in how New Delhi is prepared to employ precision strike for coercive effect under nuclear constraint. Whether this capability integration hardens into a repeatable template, rather than a one-off crisis response, remains an open question. Equally salient, however, was the information domain: battlefield gains were paired with contested narratives, as Pakistan exploited early ambiguity to contest perceptions at home and abroad. Sindoor thus revealed both adaptation and constraint—suggesting that calibrated coercion may be operationally feasible, but also underscoring how easily miscalculation can arise in a high-tempo, high-visibility battlespace.

The battlefield lessons that follow fall into three analytically distinct categories: force-employment sequencing under political restraint (SEAD, ISR, deception, and standoff strike); defensive and

[5] Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966); Herman Kahn, *On Escalation: Metaphors and Scenarios* (New York: Praeger, 1965).

counter-defensive adaptation in the UAV–missile battlespace (integrated air defense performance, low-altitude UAV probes, and loitering munitions); and cross-domain integration as an escalation-management mechanism, encompassing shaping effects beyond kinetic destruction (electronic warfare, information contestation, narrative control, and logistics resilience).

This chapter draws on triangulated open-source evidence to reconstruct the conduct and sequencing of Operation Sindoor. It integrates official Indian and Pakistani statements, contemporaneous media reporting, and specialist military assessments based on commercial satellite imagery and debris photography, using within-case process tracing to evaluate how tactical decisions shaped tempo, survivability, and escalation discipline.[6] While such evidence is necessarily incomplete and contested, systematic cross-checking reduces—though cannot eliminate—uncertainty. The lessons that follow are therefore framed as analytically grounded inferences rather than definitive claims about classified operational detail.

Situated within broader debates on limited war under the nuclear shadow, the chapter uses Sindoor to clarify how coercive pressure and escalation management operate in practice under nuclear constraint. In such crises, leverage does not derive from open-ended escalation or decisive battlefield victory, but from the ability to impose selective military costs while credibly signaling restraint. The mechanisms of escalation control are therefore inseparable from operational design: sequencing choices, ISR-enabled targeting, and disciplined precision strike determine whether pressure can be sustained without crossing politically or strategically intolerable thresholds. Sindoor's contribution lies in specifying how these mechanisms shaped battlefield effects and crisis restraint in an ISR-enabled, high-tempo campaign, showing how escalation control was produced not only through signaling but through the concrete orchestration of force employment under tight political ceilings.

Sindoor provides an unusually clear empirical case of limited war between nuclear-armed rivals, in which precision standoff strike, UAV operations, and contested air defense unfolded in a compressed, reciprocal exchange. Across four days, both India and Pakistan conducted overt strikes on each other's territory in a multi-phase coercive interaction, making the campaign a sustained episode of cross-border air-and-missile operations rather than a symbolic or episodic use of force. Beyond its regional salience, the episode illustrates how unmanned systems, contested information environments, and compressed decision cycles are altering the operational character of limited war. The sections that follow reconstruct the campaign's phases and distil the tactical and strategic lessons that emerge from this bounded but technologically dense crisis.

[6] On open-source intelligence as an increasingly important analytic practice, see Damien Van Puyvelde and Fernando Tabárez Rienzi, "The Rise of Open-Source Intelligence," *European Journal of International Security* 10, no. 4 (2025). On process tracing, see David Collier, "Understanding Process Tracing," *PS: Political Science & Politics* 44, no. 4 (2011).

Trigger Incident — The Baisaran Valley Massacre

The immediate trigger for Operation Sindoor was the 22 April 2025 attack in Baisaran Valley, near Pahalgam in Indian-administered Kashmir, in which five militants killed 26 civilians.[7] Indian authorities reported that the assailants were equipped with military-style weapons and communications gear, and that the attack involved sectarian targeting. The episode represented one of the deadliest mass-casualty assaults in the region in over a decade.[8]

Indian investigators initially said three attackers were Pakistani and two Kashmiri.[9] By late June, the National Investigation Agency assessed that the Pakistanis were Lashkar-e-Taiba operatives, citing evidence from two local men arrested for providing logistical support. The attackers themselves remain at large. Pakistan rejected any involvement in the attack. The Resistance Front—a relatively new militant group—initially claimed responsibility before later retracting the claim, underscoring the strategic ambiguity that often complicates attribution in Kashmir-related violence.[10]

The scale and communal character of the attack carried acute domestic political salience in India, striking at New Delhi's post–Article 370 narrative of restored normalcy.[11] In the context of heightened public pressure and Modi's post-Balakot counter-terrorism posture, the episode narrowed the political space for restraint and increased the demand for a visible response.

The Conduct of Operation Sindoor: A Four-Day Limited War

New Delhi's initial moves were non-kinetic but deliberate— suspending Indus Waters Treaty mechanisms, a rare act of functional escalation within the crisis repertoire.[12] Indian diplomats meanwhile sought to shape the international response and preserve diplomatic space before launching the cross-border campaign. In parallel, Indian military headquarters—coordinating with intelligence agencies—developed and refined several response scenarios against Pakistan-based militant infrastructure in the days following the attack, with target selection and strike timing finalized in early May.[13] Following two weeks of preparation, Operation Sindoor began.

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[7] Fayaz Bukhari, "At Least 20 Feared Killed in Militant Attack on Tourists in Indian Kashmir, Security Sources Say," *Reuters* April 22, 2025.
[8] Mahender Singh Manral, "Pahalgam Terror Attack: Terrorists Were Wearing Camouflage Outfits, Carried M4 Carbine, Ak-47s, Fired 70 Rounds," *Indian Express* April 23, 2025.
[9] "2 Held for Harbouring Pahalgam Attack Terrorists," *The Times of India* June 23, 2025.
[10] "Act of War: What Happened in Kashmir Attack That Killed 26 Tourists?," *Al Jazeera* April 23, 2025.
[11] Aakash Hassan and Peter Beaumont, "At Least 26 Tourists Killed by Suspected Militants in Kashmir Attack," *The Guardian* April 22, 2025.
[12] Sarita Chaganti Singh and Ariba Shahid, "What Is the Indus Waters Treaty between India and Pakistan?" *Reuters* May 16, 2025.
[13] Adrien Fontanellaz, "Operation Sindoor: The India-Pakistan Air War (7–10 May 2025)," *CHMP Exploratory Note No. 1* (Pully, Switzerland: Centre d'Histoire et de Prospective Militaires, January 15, 2026), p. 25.

Phase 1 — First Night Deep Strikes Without Prior SEAD (7 May)

India's opening strikes on May 7 marked a sharp departure from the more limited one-night raids conducted after terrorist attacks in 2016 and 2019. Launched without an initial SEAD campaign, Indian forces struck multiple targets: five sites in Pakistan-administered Kashmir, as well as Lashkar-e-Taiba and Jaish-e-Mohammed facilities deep inside Pakistani Punjab at Muridke and Bahawalpur.[14] Army artillery and drones hit targets close to the Line of Control, while the Indian Air Force employed a mix of standoff and glide munitions against deeper objectives.[15] Striking in Punjab—long treated as politically sensitive terrain in past crises—signaled that militant sanctuaries inside Pakistan could no longer be assumed secure.

India framed the opening strikes as confined to militant infrastructure rather than Pakistani military bases, and open-source reporting did not indicate deliberate attacks on major dual-use economic nodes.[16] This restraint is consistent with an effort to demonstrate resolve while keeping the confrontation bounded. In this way, the strikes can be read less as attrition-oriented capability destruction than as coercive signaling directed at Pakistani decision-makers.

Taken together, the May 7 strikes embodied a shift in India's approach: fusing operational precision with political messaging in a demonstrative use of force within escalation ceilings shaped by the nuclear shadow.

Phase 2 — Pakistan's Air and Information Counterattack (7 May)

Pakistan's military response on May 7 blended contested air operations with an immediate information campaign. The engagements saw the combat debut of Chinese-supplied J-10C fighters armed with PL-15-series beyond-visual-range missiles.[17] Islamabad claimed to have downed six Indian aircraft in the exchange. Commercial imagery and open-source analysis suggested the loss

[14] Christopher Clary, "Four Days in May: The India-Pakistan Crisis of 2025," (Washington, DC: Stimson Center, May 28, 2025). For battle damage assessment of these strikes, see Tom Cooper, Ravi Rikhye, Sanjay Badri-Maharaj, and Mangesh Sawant, *88-Hours War: The India-Pakistan War of May 2025* (Warwick: Helion Books, 2026), pp. 51-2.

[15] Evidence indicates that manned aircraft launched SCALP-EG cruise missiles, HAMMER glide bombs, and BrahMos missiles.

[16] Subsequent studies of the conflict report that Indian officials conveyed to Pakistani interlocutors that the initial strikes were confined to terrorist infrastructure and did not target Pakistani military installations. Fontanellaz, "Operation Sindoor," p. 30; Cooper, et al., *88-Hours War*, p. 50.

[17] Omar Eid, "Pakistan's Chinese-Made Jet Brought down Two Indian Fighter Aircraft – U.S. Officials," *Reuters* May 8, 2025; David Pilling, "Chinese J-10c Fighter Jets See Combat Debut in South Asia Conflict," *Financial Times* May 10, 2025.

of at least two Indian fighters, with some assessments indicating additional platforms may also have been downed but remain unconfirmed.[18]

Pakistani officials attributed their success to superior situational awareness in the electromagnetic environment, which they argued allowed new platforms to be employed effectively.[19] Some external analysts echoed this view, highlighting how these systems, integrated with ground- and air-based sensors, helped Pakistan to challenge Indian operations at long range.[20] Others have speculated that Pakistani fighters employed cooperative engagement tactics, with Erieye airborne early-warning (AEW&C) aircraft possibly providing mid-course targeting data to PL-15 missiles via Link-17.[21] This would be consistent with a kill chain in which missile guidance could be supported through mid-course datalink cueing from AEW&C platforms while launch aircraft remained radar-silent, potentially compressing Indian pilot reaction time to the terminal phase and contributing to surprise effects. Other sources, however, attributed losses to long-range surface-to-air missiles such as the Chinese-origin HQ-9, underscoring the continuing ambiguity of the first night's air battles.[22]

Simultaneously, fighting intensified along the Line of Control (LoC) and Working Boundary, with sustained exchanges of artillery and direct fire, including reported use of anti-tank guided missiles and tanks in static positions. Dozens of casualties were reported, making the LoC clashes among the most intense elements of the first day. The action, though militarily limited, was consistent with an effort to extend the counterattack beyond the air domain and across multiple fronts.

New Delhi declined to confirm losses, preserving operational security and denying Pakistan a symbolic victory. Pakistan, by contrast, moved quickly to frame the air engagements as a decisive success, coupling public claims of multiple shoot-downs with curated imagery and official briefings designed to reinforce that narrative domestically and internationally. The contrast between India's silence and Pakistan's celebratory claims, however, shaped international perceptions. In practice, Pakistan's response had limited immediate operational impact beyond the opening exchanges but carried disproportionate symbolic weight—seeking to offset India's early gains in the narrative domain rather than alter the battlefield balance. More consequential than the precise mechanism of the losses was India's response: New Delhi absorbed the setback without immediate kinetic retaliation, a posture consistent with an emphasis on escalation control over rapid reputational repair.

Taken together, the decision to open without SEAD, the tolerance of losses on 7 May, and New Delhi's refusal to react kinetically to those setbacks appear more consistent with a politically

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[18] Clary, "Four Days in May." For a detailed account, see Cooper, et al., *88-Hours War*, pp. 55-7.
[19] Clary, "Four Days in May."
[20] John A. Tirpak, "The Biggest News from India-Pakistan Air Battle: The Kill Chain," *Air & Space Forces Magazine* May 19, 2025.
[21] Fontanellaz, "Operation Sindoor," 28; Cooper, et al., *88-Hours War*, p. 55.
[22] H. S. Panag, "India Inflicted a Psychological Defeat on Pakistan—by the Skin of Its Teeth," *The Print* May 15, 2025.

conditioned signaling logic than with operational oversight, though this inference rests on behavioral pattern-matching rather than direct evidence of political guidance to the Indian Air Force.

Phase 3 — Drone Raids and SEAD Strikes (8–9 May)

The conflict's second phase unfolded primarily through standoff and unmanned systems. On the nights of May 7–8 and 8–9, Pakistan launched waves of drones—and some missiles—against sites in western and northern India, a pattern consistent with imposing costs while avoiding manned air operations. Indian officials later stated that attempted drone incursions targeted fifteen locations across western and northern India. Most platforms, including Turkish-origin Songar UAVs, were basic and had limited effect. Pakistani spokesmen denied these raids until the conflict's final night.

India replied early on May 8 with strikes against Pakistani air-defense radars, stressing that the response was "in the same domain, with the same intensity."[23] Debris photographed in Pakistan were assessed by some analysts as consistent with Harpy/Harop loitering munitions and Banshee decoys, lending partial support to Indian claims of targeted suppression.[24] Pakistani officials reported activity at roughly eleven sites and acknowledged four soldiers wounded, along with partial radar damage. They also claimed that one civilian was killed.[25] Since Islamabad had denied conducting drone raids, the strikes were widely portrayed in Pakistani domestic messaging as an unwarranted Indian escalation.

A second round of drone strikes followed the night of May 8–9: India said armed drones hit four Pakistani air-defense sites and destroyed one radar, while Pakistan claimed it downed 48 drones.[26] Public evidence for this round is thinner than for May 8. India also expanded its SEAD campaign using loitering munitions against radar sites at Chunian and Pasrur, with open-source imagery suggesting damage to key sensors. Taken together, the drone exchanges and counter-SEAD strikes suggested a growing asymmetry: Pakistan could probe and signal, but India appeared better positioned to absorb attacks, adapt rapidly, and selectively erode the systems underpinning Pakistan's air and drone operations.

At the same time, the LoC ceasefire collapsed into sustained, rolling exchanges of fire—mortars, anti-tank guided missiles, and direct tank fire— that claimed the lives of roughly 50 civilians.[27] These were the most severe clashes of the crisis, exceeding the opening night's ground skirmishes.

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[23] "Lahore's Air Defence System Neutralised," *The Economic Times* May 8, 2025.
[24] Clary, "Four Days in May."
[25] Ibid.
[26] Rahul Roy-Chaudhury, "India–Pakistan Drone and Missile Conflict: Differing and Disputed Narratives," (May 15, 2025), https://www.iiss.org/online-analysis/online-analysis/2025/05/indiapakistan-drone-and-missile-conflict-differing-and-disputed-narratives.
[27] Clary, "Four Days in May."

Phase 4 — Deep Precision Strikes on Military Infrastructure (9–10 May)

In the early hours of May 10, India executed its most ambitious strike package of the conflict, conducting a series of deep precision attacks against Pakistani military infrastructure. These strikes unfolded in two distinct waves.

Between approximately 02:00 and 05:00, Indian forces targeted a set of high-value military and enabling nodes, including the Nur Khan air base near Rawalpindi (a key command-and-control hub), the MALE drone facility at Murid, and air bases at Rahim Yar Khan, Rafiqi, and Sukkur.[28] Imagery subsequently confirmed runway damage at Rahim Yar Khan and hangar and radar damage at Sukkur.[29] One surface-to-air missile battery was also reportedly struck during this phase.[30]

A second wave of strikes later that morning marked a qualitative escalation. Around 10:00, Indian munitions hit infrastructure associated with manned aircraft and airborne early warning assets, including runway intersections at Sargodha, an F-16 maintenance hangar with associated support facilities at Jacobabad, and a hangar at Bholari housing Erieye AEW&C aircraft.[31]

Indian forces appear to have employed a mix of decoy and anti-radiation drones, alongside longer-range standoff weapons such as BrahMos and SCALP cruise missiles, with other reported munitions remaining more difficult to attribute with confidence. The expanded target set suggests an intent to impose more than symbolic costs. The strikes were designed to selectively degrade Pakistan's ability to generate airpower, sustain drone operations, and maintain situational awareness—contributing to a brief window of escalation advantage that coincided with the crisis's rapid denouement.

Open-source imagery is consistent with runway and hangar damage at multiple Pakistani airbases. Strikes were also reported near command-and-control nodes around Rawalpindi. Satellite imagery later confirmed strikes against the entrances to underground complexes near Murid and Sargodha Air Bases.[32] The latter is reputed to host part of Pakistan's nuclear warhead stockpile, though there is no evidence that nuclear assets themselves were targeted. Indian official silence regarding these strikes is consistent with an awareness of nuclear-adjacent sensitivities.

India's suppression of Pakistani radars and air defenses, through loitering munitions and anti-radiation weapons, gave its aircraft greater freedom of action in this final phase. Indian officials highlighted S-400 intercepts during this period, while Pakistan counter-claimed to have destroyed

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[28] Ibid.
[29] Imogen Piper, Evan Hill, Maham Javaid, and Rick Noack, "Indian Strikes on Pakistan Damaged Six Airfields, Post Analysis Finds," *Washington Post* May 14, 2025.
[30] Fontanellaz, "Operation Sindoor," p. 34.
[31] Piper, et al. "Indian Strikes on Pakistan Damaged Six Airfields, Post Analysis Finds"; Fontanellaz, "Operation Sindoor," p. 35.
[32] Fontanellaz, "Operation Sindoor," p. 35.

an S-400 battery at Adampur—assertions that remain contested. Target selection remained focused on military infrastructure, with no reported deliberate strikes on civilian population centers. This restraint reflected a calculated effort to punish and degrade without crossing the nuclear threshold.

Pakistan mounted its most ambitious counterattack of the conflict, firing volleys of Fatah-I and Fatah-II short-range ballistic missiles and launching Yiha-III large kamikaze drones.[33] Some debris was recovered on Indian territory, and Indian reports cited successful interceptions at Sirsa. While these attacks underlined Islamabad's willingness to sustain retaliatory pressure, they caused limited battlefield damage.

By the evening of May 10, a ceasefire was announced, reflecting a mutual judgment in New Delhi and Islamabad that both sides had achieved enough and could de-escalate without loss of face.

Calibrated Escalation Under the Nuclear Shadow

Viewed in its entirety, Operation Sindoor marked a significant departure from earlier, more limited one-night raids. The campaign fused precision strike, selective suppression of enemy air defenses, and the coordinated use of advanced standoff weapons into a sustained, multi-day operation—demonstrating New Delhi's growing willingness to employ modern capabilities in a nuclear environment. Yet target selection remained carefully circumscribed: militant facilities and selected military infrastructure were struck, while civilian targets and direct nuclear-linked sites were deliberately avoided. This restraint reflected a conscious effort to impose costs without foreclosing options for further calibrated action. In effect, India pursued a use of force that was assertive in reach but disciplined in execution, seeking not decisive battlefield outcomes but the reinforcement of bounded punishment under nuclear constraints.

Tactical and Technological Lessons Learned

While the four-day campaign was defined by high operational tempo, calibrated restraint, and a notable degree of innovation, its enduring value lies in the tactical and technological lessons it offers. Operation Sindoor showcased a series of firsts for the Indian Air Force, ranging from the integration of intelligence, surveillance, and reconnaissance into a complex strike package, to the combat debut of loitering munitions used to suppress enemy air defenses, to the management of escalation through carefully bounded targeting. At the same time, the operation exposed vulnerabilities in counter-UAV defense, information operations, and the sequencing of suppression missions. The following lessons distil these insights into discrete, transferable takeaways for future limited-war planning.

[33] Clary, "Four Days in May."

Taken together, these lessons do not merely catalogue tactical successes and failures; they specify the operational mechanisms through which sustained, calibrated coercion was executed under nuclear constraint, and thus form the empirical basis for the bounded-punishment pattern developed in the Strategic Implications section.

Lesson 1 — Skipping Early SEAD Preserved Political Signaling but Imposed Avoidable Risk

Evidence: On May 7, among the nine total targets struck, the Indian Air Force launched at least two deep strikes into Pakistan-administered Kashmir and Punjab without first suppressing enemy air defenses.[34] Rather than opening with attacks on radar and surface-to-air missile networks, India's first wave remained framed as limited in scope, a sequencing choice reflecting political caution and an effort to signal restraint. Direct evidence of an explicit political directive restricting the initial target set is unavailable; however, the observable pattern of strikes—confined to militant infrastructure and omitting early SEAD—strongly suggests that escalation control considerations shaped the opening wave.[35]

This choice reinforced the limited political framing of India's initial objectives but left Indian aircraft exposed to intact surface-to-air missile (SAM) batteries and ground-controlled intercept fighters.[36] Open-source wreckage imagery and debris reporting after the 7 May engagements suggest that India may have lost at least two fighter platforms, though precise numbers and causes remain contested— highlighting the risks of a deliberately restrained first wave conducted under an intact integrated air-defense threat. From May 8 onward, India appeared to have shifted toward more deliberate suppression of Pakistani air defenses—striking radar and surface-to-air missile sites—in a rapid adaptation after the losses of the opening night.[37]

Implication: Striking without prior SEAD can preserve signaling restraint and operational surprise against time-sensitive targets, but it is a deliberate gamble. Sindoor suggests that even limited suppression—targeting the most threatening radars and SAM batteries—might have balanced

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[34] Ibid.

[35] In a public seminar following the conflict, a serving Indian Defence Attaché stated that aircraft losses resulted from political restrictions on striking Pakistani military installations during the initial wave. See "IAF Lost Fighter Jets to Pak Because of Political Leadership's Constraints," *The Wire*, June 29, 2025. Senior Indian commanders, however, have denied political interference in operational decisions. See Cooper et al., *88-Hours War*, p. 50. For an alternative interpretation suggesting that the armed forces themselves may have imposed target-set constraints to manage escalation, see Fontanellaz, "Operation Sindoor," p. 40. The internal decision-making record remains unavailable; accordingly, this analysis relies on observable targeting patterns rather than retrospective assertions of intent.

[36] For an alternative view that this result was due to Indian strategic misjudgments and Pakistani tactical success, see Fontanellaz, "Operation Sindoor," p. 28. For analysis indicating that the Pakistani Air Force failed to intercept the initial strike formations and instead attacked aircraft performing combat air patrol missions in Indian airspace, see Cooper et al., *88-Hours War*, pp. 55-7.

[37] Fontanellaz, "Operation Sindoor," p. 33.

signaling goals with force protection. Mitigating the risks requires pre-planned suppression packages, pre-positioned electronic attack or decoy coverage, and the ability to cue loitering munitions rapidly on radar activation.[38]

Lesson 2 — Integrated ISR and Deception Enabled Precise, Calibrated Standoff Strikes

Evidence: On the opening night and again on May 9–10, India delivered precise standoff strikes across multiple locations inside Pakistan.[39] On May 8–9, India executed targeted sensor suppression using loitering munitions and Banshee target drones as decoys. Debris analysis suggested the neutralization of at least one Pakistani air-defense radar node near Lahore.[40] The key mechanism was ISR-enabled targeting and deception, rather than cumulative attrition. Rather than seeking broad air-defense collapse, the campaign appears to have pursued selective suppression sufficient to reduce exposure and enable follow-on precision strikes. This sequencing—punitive strikes, focused air defense suppression, then a larger calibrated package—is consistent with an ISR-integrated approach to coercion in which deception and selective SEAD shaped risk without requiring full-spectrum air dominance. Crucially, suppression appears to have been bounded rather than preparatory to air superiority, indicating a campaign designed to manage exposure risk and escalation thresholds rather than achieve sustained control of the battlespace.

Implication: Effective deep-strike campaigns now hinge on continuous ISR integration with deception assets and rapid SEAD options to suppress key air defense nodes early in a crisis. In limited-war contexts, the objective may be risk-managed penetration rather than air superiority. To institutionalize this, forces should (1) strengthen ISR-to-fires processes that can quickly re-task standoff munitions, (2) stock and plan for decoys alongside loitering munitions to complicate enemy sensing, and (3) exercise these flows under contested conditions such as saturation raids and electronic-warfare interference, to preserve decision speed and strike precision under real-world friction.[41]

Lesson 3 — Loitering Munitions Demonstrated a Cost-Effective Suppression Enabler but Need Full Integration to Maximize Impact

Evidence: During 8–9 May, Sindoor's suppression campaign was notably centered on uncrewed systems rather than manned aircraft: Harop/Harpy-type systems were assessed in open-source reporting as disabling fixed air-defense radar nodes, contributing to greater freedom of action for

[38] Defence and Military Analysis Programme, "Defeating Threat Air Defences: The Return of the Dead," (London: International Institute for Strategic Studies, December 2020), pp. 6–7, 14–17, 27–28.
[39] Clary, "Four Days in May."
[40] Ibid.
[41] IISS, "Defeating Threat Air Defences," pp. 6–7, 14–17.

India's deeper strike packages by 9–10 May.[42] The key shift was the displacement of manned suppression aircraft by expendable uncrewed systems capable of locating and attacking emitting sensors.[43]

Implication: Sindoor highlights how quickly modern loitering munitions and anti-radiation weapons can degrade fixed air-defense networks once committed, shifting suppression away from manned "Wild Weasel" roles toward uncrewed strikes. Loitering munitions may increasingly substitute for or augment traditional suppression methods. To maximize their potential, future campaigns should expand procurement, adapt doctrine for flexible release, conduct joint training, and integrate them closely with electronic warfare assets and real-time targeting processes.[44]

Lesson 4 — Integrated Air Defense Networks Blunted Air Threats, but Coordinated Low-Altitude UAV Probes Remain Challenging

Evidence: Between 8–9 May, Indian sources claimed that its integrated air defense network—including S-400, Akash systems, and other surface-to-air missile batteries—successfully intercepted a range of Pakistani aerial threats, including drones and missile/munition assaults, though specific claims of ballistic-missile intercepts remain unconfirmed.[45]

Crucially, resilience appears to have derived less from any single platform than from network integration and emission discipline. The Air Force's Integrated Air Command and Control System (a nationwide command-and-control network) and the Army's Akashteer network fused optical sensors, limited radar activations, electronic intelligence, and civilian reporting into a real-time air picture. Many incoming small UAVs were reportedly engaged at the lowest tier using upgraded legacy air-defense guns alongside jamming and other counter-drone measures, reducing Pakistan's ability to use drone probes for systematic order-of-battle mapping.[46]

Yet Pakistan's coordinated low-altitude incursions along the Jammu & Kashmir border still exploited coverage gaps, underscoring that waves of small UAVs remain challenging even for advanced networks.[47]

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[42] Clary, "Four Days in May."
[43] For discussions of this phenomenon more broadly, see Arie Aviram, "Loitering Munitions," in *Technology Platform* (Tel Aviv University: INSS, June 25, 2025).
[44] IISS, "Defeating Threat Air Defences," pp. 6–7, 17, 27–28.
[45] "How India Intercepted Pakistan Drones, Missiles and Hit Back," *India Today* May 9, 2025; "How India Shut down Pakistan's Second Desperate Bid to Escalate Tensions," *Times of India* May 9, 2025; Roy-Chaudhury, "India–Pakistan Drone and Missile Conflict".
[46] Dinakar Peri, "Military Lessons from Operation Sindoor," (New Delhi: Carnegie India, October 6, 2025).
[47] Daniel M. Gettinger, "Department of Defense Counter Unmanned Aircraft Systems," (Washington, DC: Congressional Research Service, March 31, 2025); Stacie Pettyjohn, "Evolution Not Revolution: Drone Warfare in Russia's 2022 Invasion of Ukraine," (Washington, DC: Center for a New American Security, February 8, 2024).

Implication: Sindoor illustrates that networked air-defense architectures integrating sensors, shooters, and electronic-warfare assets can preserve operational tempo under heavy attack. But resilience increasingly depends less on high-end surface-to-air missile systems alone than on emission discipline, sensor fusion, and dense low-tier point defense. The density and speed of coordinated low-altitude uncrewed aircraft probes therefore demand investment at the lowest tier—particularly in counter-drone detection, short-range interception, and forward-deployed electronic attack.

Lesson 5 — UAV Use Became a Central Escalatory Dynamic

Evidence:
Throughout Sindoor, unmanned systems shaped both battlefield dynamics and escalation management. Pakistan's low-altitude drone probes functioned as persistent pressure rather than token harassment.[48] Fontanellaz estimates that the first major night attack involved over 300 drones, while a second wave on 8–9 May involved approximately 600, combining low-cost decoys with more capable attack models intended to saturate Indian defenses.[49]

These raids were also designed to complicate Indian air-defense decision-making by forcing intermittent radar activation and exposing sensors to electronic detection. India responded with a mix of interception, jamming, and uncrewed-system suppression of radar nodes using Harop/Harpy loitering munitions, while drone imagery and social-media amplification magnified symbolic effects beyond physical damage.[50]

Implication: Sindoor suggests that drone warfare is no longer a supporting function but a central escalatory dynamic in limited war. Drone swarms, loitering munitions, and deniable probes strain air-defense capacity, blur attribution, and create continuous opportunities for calibrated escalation below traditional political thresholds. At the same time, UAV-centric pressure can drift toward iterative signaling rather than coercion if it fails to impose costs that alter adversary behavior. Future campaigns will therefore need to treat counter-drone operations not merely as force protection but as an escalation-management tool—integrating detection, electronic defeat, kinetic interception, and strategic communications to prevent drone activity from generating an unbounded cycle of probing and response.

Lesson 6 — Strategic Ambiguity in Narrative Warfare Can Preserve Operational Security but Risks Losing the Message

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[48] Fontanellaz, "Operation Sindoor," p. 30; Sameer Lalwani, Shailender Arya, and David Brostoff, "Deep Learning from Operation Sindoor: Five Takeaways from a Four-Day War," *War on the Rocks* January 22, 2026.
[49] Fontanellaz, "Operation Sindoor," pp. 30–1.
[50] Ibid.

Evidence: Following Pakistani claims of shooting down Indian platforms, India chose not to confirm or deny losses publicly.[51] This ambiguity likely protected operational security by avoiding admission of vulnerabilities. However, it ceded narrative advantage, allowing Pakistan to frame itself as the defender through coordinated media and diplomatic messaging. In the immediate aftermath of 7 May, Pakistan's shootdown claims gained disproportionate international traction, while India's stated objective—punitive strikes against Jaish-e-Mohammed and Lashkar-e-Taiba infrastructure—became comparatively muted in early external coverage. Sindoor thus illustrates how tactical outcomes can be overshadowed when early narrative initiative rests with the side willing to speak first and loudest. Comparative evidence from recent conflicts suggests that rapid public attribution and visual disclosure can shape legitimacy dynamics early in a crisis.[52]

Implication: Operational planning for limited war must make strategic communications a core function, integrated with execution from the outset. Narrative control is therefore an enabling condition of escalation-disciplined compellence, shaping whether attempted coercive pressure translates into strategic effect under political restraint. This means pairing operational security with proactive, real-time messaging—using pre-approved visuals, empowered spokespeople, and rapid-response teams. Future campaigns will need such mechanisms to ensure adversaries cannot dominate the narrative in a high-visibility battlespace.

Lesson 7 — Cross-Domain Integration Shaped Adversary Behavior Beyond Kinetic Destruction

Evidence:

Sindoor underscores how cross-domain, non-kinetic effects can shape adversary behavior even when physical destruction is limited. India sustained operational tempo through coordinated standoff strike, drone-based surveillance, electronic warfare, and contested information activity.[53] Harpy loitering munitions targeted Pakistani air-defense radars, encouraging emission restraint, while UAV reconnaissance and satellite imagery enabled rapid battle-damage assessment and follow-on planning.

Sindoor also revealed an electromagnetic shaping logic: Pakistani drone waves appear to have been designed not only for harassment, but to induce Indian radars to activate, making them detectable to Pakistani electronic intelligence and supporting efforts to map India's defensive order

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[51] Gerry Shih and Niha Masih, "At Least Two Indian Jets Appear to Have Crashed during Pakistan Strikes, Satellite Imagery Shows," *Washington Post* May 9, 2025.

[52] Tanya Goudsouzian, "How Ukraine Won the Information War," *The National Interest* October 23, 2022; Matt Beezley, "How the War in Ukraine Sets a New Precedent for Communications," Red Fan Communications, https://redfancommunications.com/insights-how-the-war-in-ukraine-sets-a-new-precedent-for-communications.

[53] Arzan Tarapore, "Operation Sindoor and the Evolution of India's Military Strategy against Pakistan," *War on the Rocks* May 19, 2025; "Indian Armed Forces Used Domestic Strategic Space Assets, Foreign Commercial Satellites for Operation Sindoor: Report," *The Economic Times* May 13, 2025.

of battle. In this sense, drone raids functioned as cross-domain sensing and shaping operations as much as kinetic attacks.

Collectively, the combination of persistent drone surveillance, radar suppression, electromagnetic disruption, and narrative uncertainty constrained freedom of action even where physical destruction was limited.

Implication:
Sindoor illustrates that modern limited war will be won less by single-domain superiority than by cross-domain integration. Electronic warfare, persistent surveillance, deception, and narrative control can erode an adversary's situational awareness and channel behavior in ways that create openings for follow-on action. Executed from the outset, such integration maximizes shaping effects while conserving high-end kinetic capabilities and preserving escalation discipline.[54]

Lesson 8 — Over-the-Horizon Enablement Makes "Bilateral" War Operationally Multilateral

Evidence:
Operation Sindoor underscores how ostensibly bilateral crises can be operationally shaped by third-party enablement that remains remote, deniable, and only partially observable. In the conflict's aftermath, Indian officials alleged that Pakistan received "live inputs" on Indian deployments during the fighting. Pakistan rejected these claims, and no independent disclosure has corroborated event-specific intelligence sharing. The issue therefore remains contested.

Even so, Sindoor sharpened Indian strategic perceptions of China as a potential "over-the-horizon" participant—one able to contribute indirectly through surveillance and targeting support, electronic cueing, or space-based enablement. The analytically defensible point is not that real-time external tasking can be demonstrated on the basis of open sources, but that the structure of the battlespace renders limited third-party support plausible and strategically consequential. [55]

Pakistan's air and air-defense system is embedded in a largely Chinese-origin networked architecture—fighters, airborne early-warning (AEW&C) platforms, datalinks, and surface-based air defenses designed for multi-sensor fusion.[56] China, in turn, possesses persistent regional surveillance and space-based coverage that could, in principle, supplement

[54] IISS, "Defeating Threat Air Defences," pp. 6–7, 14–17.
[55] Sameer Lalwani in conversation with Milan Vaishnav, "The Quiet Resilience of U.S.–India Defense Cooperation," *Grand Tamasha* podcast, (Washington, DC: Carnegie Endowment for International Peace, December 9, 2025).
[56] Fontanellaz, "Operation Sindoor," pp. 17–18, 26–29.

indigenous sensing, even through modest improvements in cueing or revisit rates. [57] Finally, Pakistan's early-phase operational performance—rapid alerting and tightly timed counterair responses under short warning—was broadly consistent with what externally augmented situational awareness might enable. [58]

This does not establish that third-party ISR sharing occurred. It does suggest, however, that modern limited war cannot be treated as operationally self-contained when one belligerent is embedded—formally or informally—within a patron's broader intelligence and surveillance architecture.

Implication:
The key implication is that escalation dynamics cannot be assessed solely at the dyadic level. Even limited, compartmentalized external support can tighten warning time, compress decision cycles, and complicate signaling in the decisive opening hours of a crisis. Future planning must therefore treat the prospect of third-party ISR enablement as a structural feature of contemporary limited war, rather than an exceptional contingency.

Lesson 9 — Logistics Resilience Sustained the Short War, but Endurance Requires Greater Depth

Evidence: Operation Sindoor compressed what might otherwise have unfolded over weeks into just four days, generating an unusually high operational tempo.[59] India employed high-end standoff inventories—including SCALP and BrahMos cruise missiles alongside Harpy/Harop loitering munitions—and conducted strikes on multiple Pakistani airbases, producing observable runway and hangar damage at several locations. [60] Open-source assessments suggest Pakistan's early counterair success on 7 May was not replicated later, and by the latter stages of the campaign its ability to impose costs on India had diminished.[61]

The central indicator of logistics resilience was India's ability to sustain deep strike activity through 10 May despite contested aircraft losses on the opening night, suggesting sufficient near-

[57] "China Helped Pakistan in Clash with India, Delhi-Linked Group Says," *Bloomberg* May 18, 2025; Greg Torode, "India-Pakistan Conflict Offers Rich Intelligence Opportunity for China," *Reuters* May 9, 2025.
[58] Fontanellaz, "Operation Sindoor," pp. 26–29.
[59] Clary, "Four Days in May."
[60] "Operation Sindoor: Scalp and Hammer, the Weapons Used," *NDTV* May 7, 2025; Clary, "Four Days in May." See also Tarapore, "Operation Sindoor and the Evolution of India's Military Strategy against Pakistan."
[61] Tarapore, "Operation Sindoor and the Evolution of India's Military Strategy against Pakistan"; Walter C. Ladwig III, "Calibrated Force: Operation Sindoor and Future Indian Deterrence," *RUSI Commentary* May 21, 2025; Fontanellaz, "Operation Sindoor," p. 39.

term munition depth, sortie generation capacity, and support-system robustness to maintain coercive pressure across the crisis window, as Pakistani resistance weakened.[62]

Implication: Even over four days, sustaining precision strikes illustrated the importance of ready stocks of high-end munitions, resilient sortie generation, and support arrangements able to absorb early setbacks without collapsing tempo. In short, the decisive logistics question in high-tempo limited war is often not long-run industrial replenishment, but whether a state can sustain effective standoff operations through the critical opening window without exhausting its most capable inventories. Future preparedness will therefore depend on deeper precision-weapon stockpiles and surge capacity to replenish them rapidly, as well as hardened and dispersed support infrastructure able to sustain sortie generation under attack.[63]

Taken together, these lessons show not just the promise but also the limits of prosecuting a high-precision limited war under the nuclear shadow. Sindoor demonstrated that nuclear weapons did not prevent India from sustaining multi-day precision. At the same time, India's ability to maintain tempo compressed decision cycles to minutes, magnifying the risk of error even as coercive pressure mounted.

Operation Sindoor suggests that advanced strike capabilities, doctrinal discipline, and political control can support attempted coercive pressure while respecting escalation ceilings. That discipline rested on tight political control, pre-planned targeting, and rapid civil–military coordination, which helped keep the campaign bounded even as intensity increased. But the campaign also revealed how new technologies can destabilize: drone swarms emerged as a prominent escalatory dynamic, while information operations exposed India's difficulty in controlling the narrative.

The enduring strengths lay in multi-domain orchestration, cross-domain pressure, and logistics resilience. Yet vulnerabilities — in counter-drone defense, narrative management, and sequencing of suppression missions — showed how quickly adversary adaptation can erode early strike advantages. The contribution of Sindoor is therefore double-edged: it suggests that calibrated, limited war may be feasible, but it also underscores how precision strike, drone warfare, and compressed timelines can magnify the fragility of crisis stability.

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[62] See also Fontanellaz, "Operation Sindoor" which independently reconstructs Pakistan's early tactical success, subsequent failure to sustain counterair effectiveness, and India's ability to expand the scale and depth of strikes through the final phase of the campaign.

[63] For more on the opening-window problem of precision-munition depletion and limited surge capacity, see Seth G. Jones, "Empty Bins in a Wartime Environment: The Challenge to the U.S. Defense Industrial Base," (Washington, DC: Center for Strategic and International Studies, 2023), pp. 2, 11, 21. On the centrality of air base resilience—sortie generation, dispersal, and hardening—to sustaining strike tempo under attack, see Alan J. Vick and Mark Ashby, "Winning the Battle of the Airfields: Seventy Years of Rand Analysis on Air Base Defense and Attack," (Washington, DC: RAND, Feb 24, 2021), pp. x–xi, 33.

Strategic Implications: Limited War and Escalation Management

Sindoor represents a potential inflection point in India's approach to limited war under nuclear constraint. Whereas earlier episodes emphasized symbolic or one-night reprisals, the sustained, multi-day character of the campaign suggests that future terrorist attacks will increasingly be treated as inseparable from Pakistani state support, thereby raising the baseline escalation threshold for Indian responses. This should be understood as a proto-doctrinal pattern rather than a settled institutional rule, consistent with the crisis-specific adaptation described in the Introduction. The key question is whether this crisis-specific adaptation hardens into a repeatable template. If this pattern endures, Sindoor may come to be understood not merely as a discrete crisis but as the possible emergence of a new model of calibrated coercion under nuclear constraint.

Operation Sindoor offers important lessons for the theory and practice of limited war in South Asia. Most directly, India appears to have attempted to combine standoff munitions, electronic warfare, and precision targeting to impose costs on Pakistan-based militant infrastructure while avoiding uncontrolled escalation. This represented a departure from earlier symbolic strikes and illustrated Schelling's point about compellence: changing an adversary's behavior requires costly, time-bounded demonstrations of resolve, not just deterrent threats.[64]

Sindoor reveals what this chapter terms "bounded punishment": a distinctive operational pattern of limited war under nuclear constraint, characterized by sustained, calibrated coercion that imposes selective military costs while remaining deliberately constrained in scope, tempo, and target selection to manage escalation risk. The immediate compellent aim was not decisive battlefield victory, but the narrowing of Pakistan's perceived tolerance for militant sanctuary by demonstrating that selected military-enabling nodes could be struck without uncontrolled escalation.

Bounded punishment rests on sequenced precision strikes— enabled by integrated surveillance and targeting alongside selective suppression—calibrated to impose discrete military pressure while preserving escalation ceilings. Unlike symbolic one-off reprisals, short-range signaling strikes, or attrition-oriented denial campaigns, bounded punishment rests on tempo compression, target restraint, and political–military escalation discipline to generate compellent pressure without triggering vertical or horizontal escalation. The chapter thus refines our understanding of how compellence and escalation management operate in practice in the era of integrated surveillance and long-range precision strike.

At the operational level, two features were central to escalation management: target restraint and precision strike discipline. Across the four-day campaign, India deliberately avoided direct strikes on civilian and core nuclear command-and-control targets, while confining attacks to selected

[64] Schelling, *Arms and Influence*, pp. 69–78.

military infrastructure even when operating near nuclear-adjacent facilities such as Sargodha and Masroor. Likewise, strikes on high-value assets such as Nur Khan and Sargodha airbases, radar sites, and command nodes near Rawalpindi were calibrated to impose real military effects without breaching nuclear thresholds. Together, these choices suggest that selective coercive pressure may be generated without abandoning escalation discipline.

Sindoor's effectiveness in this regard rested on three enabling conditions: credible precision-strike capacity, the ability to select targets proportionately based on reliable surveillance and intelligence, and a robust political–military consensus on escalation ceilings. These parameters allowed India to mount a sustained coercive operation without triggering vertical or horizontal escalation, offering a potential template—if not yet a formal doctrine—for managing conflict under the nuclear shadow.

At the same time, the conflict exposed both the potential and the fragility of escalation management in a nuclearized environment. Both sides demonstrated acute awareness of red lines, calibrating their actions to avoid thresholds that could trigger general war or nuclear use. India's avoidance of civilian and nuclear-related targets, and Pakistan's decision not to retaliate against Indian strategic assets, suggest that mutual deterrence remains strong—if not always stable. Yet vulnerabilities persisted. The fog of war, compressed decision cycles, and the proliferation of technologies such as drone swarms and electronic warfare assets create significant risks of miscalculation. The absence of reliable crisis communication mechanisms, and reliance on public signaling and media narratives, further compounded escalation risks. Even when bounded, the possibility of inadvertent or accidental escalation cannot be dismissed.

A further structural risk lies in the opacity surrounding nuclear storage locations and command-and-control arrangements on both sides. In crises where conventional strikes occur near dual-use military facilities, inadvertent degradation of nuclear-adjacent infrastructure cannot be entirely ruled out—particularly in a longer or more expansive conflict. Even absent deliberate counterforce intent, uncertainty about the scope and effects of conventional damage could narrow escalation margins by increasing the risk that one side misinterprets strikes on military infrastructure as preparation for nuclear disablement.

Escalation fragility operates not only through physical risk to sensitive infrastructure but also through perception and narrative. India's tactical and operational successes were blunted by weak narrative control. Pakistan used messaging by its military public relations arm alongside disinformation to contest India's claims and mobilize diplomatic support. False reports — including claims that Indian missiles had struck the Sikh holy city of Amritsar — sowed confusion, undermined credibility, and complicated third-party crisis management. As Schelling reminded us, coercion rests not only on capability and credibility but also on communication; without controlling the message, battlefield achievements may fail to yield strategic effect. This suggests that future crises will be contested as fiercely in perception as on the battlefield itself, with disinformation emerging as a key strategic factor.

The operational and escalation dynamics observed in Sindoor are not unique to South Asia. They bear directly on prospective contingencies involving other nuclear-armed or near-nuclear rivals, including China–Taiwan, Israel–Iran, and the Korean Peninsula. In each of these contexts, crisis stability will hinge on the ability to integrate surveillance and intelligence, suppression of air defenses, deception, precision strike, and information operations into a coherent scheme of bounded punishment during sustained, high-tempo conflict. Sindoor thus provides a transferable empirical illustration of calibrated coercion under nuclear constraint, with direct implications for how limited war, escalation management, and coercive signaling will function in an era of long-range precision weapons, drone saturation, and compressed decision cycles.

Taken together, Sindoor crystallizes an emergent pattern of limited war under nuclear constraint, in which sequencing, integrated surveillance and targeting, selective suppression, and escalation discipline can generate real military effects while keeping conflict bounded below nuclear and strategic escalation thresholds.

Conclusion: Crisis Stability and Escalation Management in South Asia

Operation Sindoor marked a significant inflection point in the management of crisis escalation in South Asia. India demonstrated an ability to sustain multi-day, multi-domain precision strikes under tight political control, while Pakistan signaled resolve but avoided steps that would have risked uncontrolled escalation. The episode confirmed that limited force can be employed beneath the nuclear shadow, yet it also revealed how narrow the corridor for controlled escalation has become.

The campaign's implications are double-edged. Sindoor suggests that calibrated coercion—what this chapter terms bounded punishment—can generate selective military effects without breaching escalation ceilings. Sustained, sequenced precision strikes enabled by integrated surveillance, selective suppression, and escalation discipline imposed real costs while keeping conflict bounded below nuclear and strategic thresholds. Yet the conflict also exposed the fragility of escalation management under modern conditions. High-tempo standoff strikes, drone saturation, and electronic operations compressed decision cycles and reduced the margin for error even when political objectives remained limited.

Escalation dynamics were shaped not only by military thresholds but by domestic and informational pressures. Populist rhetoric, social-media amplification, and nationalist media narratives narrowed the space for quiet de-escalation and increased the demand for visible retaliation. Future crises may therefore be contested as much through political expectations and digital perception battles as through underlying military balances, complicating the stabilizing logic of mutual deterrence.

For policymakers, the central lesson is that crisis stability will depend as much on institutions and communication as on strike capability. Resilient command and control systems, credible crisis

channels, integrated information strategies, and robust counter-drone defenses are now core requirements of escalation discipline. Investments in munition depth and joint training must be matched by political restraint and the capacity to communicate coercive intent clearly in a high-visibility battlespace.

Above all, Sindoor reinforces a central insight of coercion under nuclear constraint: the power of force lies not in escalation, but in the disciplined imposition of costs within clearly signaled limits.