DETERRENCE IN TRANSITION: FROM NUCLEAR SHADOWS TO TECHNO-DETERRENCE ACROSS LAND AND SEA

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Abstract

This paper examines the evolving dynamics of cross-domain deterrence between Pakistan and India, focusing on how nuclear, conventional, and maritime capabilities intersect to shape South Asia's security environment. Between 2014 and 2025, both countries have sought to project strength not only through nuclear signalling but also through conventional force modernisation and an increased emphasis on naval power in the Indian Ocean. These overlapping domains of deterrence influence how each side perceives threats, makes decisions, and responds during moments of tension. The Pahalgam episode, marked by sharpened rhetoric and heightened alert statuses, serves as a revealing case of how crises in South Asia can quickly spill across multiple domains, creating uncertainty and heightening the risk of miscalculation. The growing prominence of naval power, in particular, highlights how sea-based deterrence and maritime competition are adding new layers to the traditional nuclear equation between Pakistan and India. By drawing attention to the human and political dimensions of deterrence, the paper argues that South Asian stability cannot be understood solely in terms of nuclear balances. Instead, it requires recognising how military postures, leadership choices, and perceptions across different domains collectively shape crisis outcomes and long-term defence policies.

Keywords: AI Algorithms, Full-spectrum Deterrence, Nuclear Deterrence, Submarines, Cold Start Doctrine, Blue Water Navy.

Introduction

The rivalry between Pakistan and India has long defined South Asian security, but recent years have seen a more complex interplay of forces. Since 2014, both governments have advanced their conventional, nuclear, maritime, and emerging-technology capabilities, making deterrence an increasingly layered concept.[1] Pakistan and India now push not only with bombs and missiles but with drones, cyber, space, and naval power.

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Leaders on both sides rely heavily on signalling, public statements, military mobilisations, and even social media-led information warfare to shape perceptions.[2] These signals are filtered through domestic politics and historical grievances, making deterrence inherently subjective and unstable.

According to scholars, deterrence requires credibility, communication and perception of costs and benefits by the adversary.[3] Traditionally, nuclear weapons have established stability in the South Asian region by discouraging full-fledged war by threatening unacceptable retaliation.[4] However, conventional gains or losses can alter this calculus, as a large ground or air build-up may test the limits of nuclear redlines.[5] Similarly, military action in the sea or cyberspace may be subtle signals of strength or vulnerability. The nuclear deterrent is undermined by India with its increasing "full-spectrum" power projection and posturing.

Islamabad further emphasises that it has no room to use aggression below the nuclear level, considering it has a safe triad of nuclear forces in land, sea and air.[6] Meanwhile, the Pakistani arsenal contains low-yield weaponry that is meant to deter limited conventional offensives when the Indian Cold Start doctrine is in play. Practically, today deterrence is a web of overlapping domains, with actions or threats in one domain, land, air, sea or cyber, having implications in others. The interconnected deterrence was dramatically demonstrated in the May 2025 conflict.

This research argues that South Asian stability is maintained by layered, cross-domain deterrence, which involves using threats in one domain to deter actions in another domain. Moreover, the cross-domain deterrence, including naval, air, cyber, land, space, etc., creates multiple channels of signalling and escalation. Leadership psychology and domestic pressures further colour how threats are interpreted. The result is a fragile stability: major war is avoided, but limited engagements and crises can flare unpredictably.[7] There is always a risk of nuclear war with India in case of any conflict. During recent Marka-e-Haq, Pakistan re-established conventional deterrence and denied space for limited conflict under the nuclear umbrella. The development of Army Rocket Force Command has further enhanced Pakistan's conventional deterrence. Moreover, "Pakistan's effective multi-domain operations enabled by tri-service synergy, integrating cyber capabilities, electronic warfare, intelligence, surveillance and reconnaissance (ISR), space-based assets, and coordinated information manoeuvre to generate cross-domain effects."[8]

This paper starts by revisiting the debate on deterrence and its application in the South Asian context. After the theoretical debate, changes in the arena of nuclear, conventional, maritime, and "techno" are analysed in the 2014-2025 time period of South Asia. This research further uses the case study of the May 2025 Pakistan-India conflict to understand 'cross-domain deterrence' in play. After that, research considers human and political factors in decision-making during the crises, and finally discusses what all this means for regional stability.

The Concept of Deterrence and Its Evolution in South Asia

Deterrence broadly means convincing an adversary that the costs of aggression will outweigh any possible gains. Classic definitions describe it as efforts "to discourage or restrain" an opponent from action, in effect, to make alternatives to conflict appear more attractive than war.[9] This involves not only the capability to punish or deter aggression, but also the ability to communicate credible intent to use it. In practice, deterrence hinges on four pillars: capability (enough firepower), resolve (willingness to use it), credibility (trust by the adversary), and clarity of communication.[10] A threat that cannot be carried out is hollow; one that is too extreme may lose effect. Indeed, theory warns that if a nuclear threat becomes "implausible," its potency fades, whereas lowering the threshold too much can make an attack tolerable.[11] Thus, states must calibrate their posture so the enemy truly *believes* in both the capability and will to respond.

In South Asia, deterrence did not begin with nuclear weapons. During the pre-nuclear period, India and Pakistan relied primarily on conventional military capabilities, alliance relationships, force mobilisations, and political signalling to influence each other's behaviour. The wars of 1947–48, 1965, and 1971 demonstrated both the possibilities and limits of conventional deterrence, as neither side was able to establish a stable military balance capable of preventing recurring crises. India's 1974 nuclear test and the subsequent nuclearisation of the region gradually transformed deterrence from a predominantly conventional concept into one increasingly shaped by the threat of nuclear escalation. The overt nuclear tests conducted by both states in 1998 completed this transition, creating a strategic environment in which conventional, political, and nuclear calculations became deeply intertwined.

Nuclear deterrence has traditionally served as the stabiliser in South Asia.[12] After the 1998 tests, no full-scale war has taken place between India and Pakistan, and this has been possible in large part due to the threat of devastating retaliation developed by Mutual Assured Destruction (MAD).[13] The rationality behind the development of nuclear weapons in Pakistan is the concerns of large Indian conventional forces, and nuclear weapons will act as a great equaliser. Pakistan's official doctrine is Full-Spectrum Deterrence (FSD) therefore, supports the principle of credible minimum deterrence.[14] This is supported by Quid Pro Quo Plus (QPQP), which prioritises flexible and gradual signalling and operational provisions aimed at denying an opponent an advantage in the escalation.[15] Pakistan is following a survivable, effective deterrent umbrella that should be adequate to deter coercion or aggressive action below the nuclear threshold.

Nuclear credibility is closely associated with conventional forces. Nuclear deterrence is only effective when the country is able to counter or punish aggression to a certain extent.

That is, deterrence is partially a denial strategy: threats can become plausible when there are real defences or forces involved. Conventional strength reinforces nuclear deterrence in South Asia.[16] Modernisation of the Pakistani armed forces, be it air power or missile systems, is aimed partly to keep India at bay with its superior conventional military strength. Analysts highlight that such an interaction can result in a stability-instability paradox: on the nuclear level, stakes are high, and create a sense of stability, whereas on the low level, both parties will be tempted and compelled to test below nuclear redlines.[17] Pakistan considers the Cold Start Doctrine of rapid, limited conventional operations by India as a destabilising contingency that would reduce decision-making time frames in the face of a crisis.[18] In response, Islamabad has developed shorter-range capabilities, such as the Nasr missile, to deter below-threshold limited conventional operations. [19] This development, within Pakistan's doctrinal framework, helps reinforce deterrence stability by discouraging conventional adventurism rather than lowering the threshold for nuclear use.

Maritime power has also become a new variable besides land and air forces. India's growing blue-water navy and the intentions of using sea-based nuclear submarines change the perception of threats along the sea lanes and beyond.[20] India, for instance, relies on its fleet of aircraft carriers and nuclear submarines to project power in the Indian Ocean and beyond. The development of maritime capabilities in Pakistan, such as the Chinese-made Hangor-class diesel submarines and the Babur-III submarine-launched cruise missile, provides Islamabad with a sea leg to its deterrence.[21] This way, the naval deployments provide an additional layer: denial or threat on the sea contributes to calculations on the land and vice versa.

The use of technology has also complicated deterrence. [22] Better surveillance (drones, AWACS, satellites) implies that both sides of the conflict possess more visibility, yet also fewer opportunities to interpret ambiguities and misperceptions. Precision strike weapons (long-range missiles, armed drones) can serve to pay the price without a full-scale war, which effectively reduces the cost of limited conflict.[23] Cyber warfare also introduces a grey area where a single non-attributable attack on critical facilities can mimic the effects of a kinetic strike. This was seen in the May 2025 conflict, where cyber and electromagnetic warfare played a major part.[24]

Overall, deterrence in South Asia today is multi-layered and perception-driven. Nuclear weapons remain the ultimate guarantor of strategic balance, but they no longer operate in isolation. Conventional posture, maritime activity, and cutting-edge technologies all influence how each side reads the other's intent. Success or failure of deterrence ultimately resides not in hardware alone, but in whether threats are understood and believed. As RAND analysts note, deterrence "demands the nuanced shaping of perceptions" so that war seems costlier than its prizes.[25]

In the end, what matters is how leaders interpret signals and whether each side credibly convinces the other that aggression will bring unacceptable consequences.

Shifts in Deterrence Dynamics (2014–2025)

Nuclear Deterrence Trends

Over 2014–2025, both countries tweaked their nuclear doctrines and postures. Pakistan continued to emphasise Credible Minimum Deterrence (CMD), but with an evolving scope. Official statements reiterate that Pakistan's arsenal is the basic element for deterrence, and that CMD must adjust as India's capabilities grow.[26] In practice, Islamabad has shifted toward what it calls Full-Spectrum Deterrence (FSD), maintaining nuclear options across strategic, operational, and tactical levels.[27] After India's Cold Start doctrine surfaced in the 2000s, Pakistan publicly embraced FSD, testing the Nasr short-range, low-yield ballistic missile in 2011 and widely announcing a "full spectrum" approach. Lieutenant General Khalid Ahmed Kidwai (Retired) explained that FSD now includes horizontal coverage (land, sea, air) with nuclear weapons covering all of India, and a tri-service nuclear force (Army, Navy, Air Force commands) with yields from tactical to strategic.[28] In sum, Pakistan has backed its CMD principle with more layered strategic and nuclear capabilities.

India maintains a formal Nuclear No First Use (NFU) policy that it will only use nuclear weapons in retaliation. In practice, however, official caveats and signalling from senior leaders have undermined the normative clarity of that pledge.[29] India officially states that if it is attacked using biological or chemical weapons, it will retaliate using nuclear weapons.[30] This introduced operational ambiguity and made the NFU commitment harder to interpret in a crisis.

Concurrently, the qualitative improvements in capabilities are altering the strategic calculus. Modernisation of missile forces and a wider array of delivery platforms, plus the emergence of a more visible sea-based deterrent around the Arihant class SSBN, increase the options that could be deemed relevant in terms of first use.[31] Debates by the Indian strategic community about lower yield, battlefield nuclear, add to the confusion at the threshold. These developments reduce the length of the decision timelines and make for murky signalling in fast-moving crises.

From Pakistan's point of view, such trends render the NFU pledge less credible. The interplay between the combination of ambiguous public statements and increasing operational capabilities gives rise to doubts about the control of escalation.[32] Islamabad is therefore inclined to see doctrinal ambiguity, not assured restraint, as a defining characteristic of the Indian attitude towards nuclear posture.[33]

Nuclear logic has also become more visible in regular political and public discourse. Pakistani messaging has typically presented the nuclear references in a manner that is more diplomatic and focused on stabilising the relationship by the metaphor of linkage and stressing the need for restraint and the inadmissibility of war in the nuclearised region, while at the same time, any major provocation will lead to a response sufficient to restore any kind of deterrence.[34] By contrast, Indian political rhetoric has sometimes used deterrence to justify assertive unilateral actions, with Narendra Modi justifying his decision in 2019 on Jammu and Kashmir, for example, by claiming that it was made possible by India's capacity to manage pressures for de-escalation.[35] Neither side openly threatens the use of nuclear weapons, but the seeping of nuclear considerations into the normal patterns of signalling means that even limited incidents now take place against a steady background of nuclear risk.

Conventional Force Modernisation

Conventional forces remain a factor in the dynamics of deterrence even below the nuclear brink in South Asia. India has undertaken a vast modernisation of its armed forces, especially the Army and Air Force, in order to increase conventionally available options during times of crisis.[36] A main part of this effort has been the development of precision strike capabilities and faster mobilisation concepts. The introduction of Dassault Rafale aircraft with SCALP missile as well as introduction of BrahMos missile on Sukhoi Su-30MKI represents an emphasis on long range precision strikes. These developments are often connected with debate on the Cold Start doctrine, often defined as a system for swift punishment action under the nuclear threshold.[37]

Recent crises indicate that such ideas play an ever-increasing role in operational behaviour. The Balakot airstrike of 2019 and the Pahalgam crisis of 2025 were signs of increasing willingness to use cross-border air strikes in a limited confrontation. Many analysts say they see in this evidence that air power is slowly coming to be treated as a usable weapon under the nuclear umbrella.[38] The general opinion in earlier strategic thought had considered cross-border air strikes very escalatory. The recent trend suggests an application to normalising these activities as part of crisis management.

India has also improved its intelligence, surveillance, and reconnaissance capability. Airborne early warning systems, sensors with networks, and support from satellites have made the situation awareness and targeting better. During the Indo-Pak conflict in May 2025, the Indian planners laid stress on integrated air defence networks and accelerated decision cycles in order to carry out fast operations. However, these assumptions were countered when the combined response by Pakistan disturbed the planned operational tempo and reportedly claimed the loss of six Indian aircraft. [39] The episode demonstrated the shortcomings of the rapid strike concepts in contested environments.

Pakistan, on the other hand, has based its traditional posture on the potential of restricted warfare situations. With bigger ground forces of India, Pakistan has been concerned with improving air defence and developing counter-offensive capabilities. Pakistan Air Force has modernised radar systems, avionics, and operational strategies to deal with Indian air operations. Fighter aircraft like Chengdu J-10C, JF-17 Thunder and F-16 Fighting Falcon constitute a vital component of this strategy, along with support aircraft like DA-20 and Saab-2000 Horizon-7.[40]

The perception of crisis is also influenced by military exercises and the postures of military forces. Exercises such as Exercise Yudh Abhyas and Exercise High Mark demonstrate preparedness and also suggest intent.[41] Both sides pay close attention to movements of the forces, as even minor deployments are regarded as potential preparation to escalate the situation.[42]

As a result, conventional strategies are tied to nuclear deterrence. India's concept of punitive conventional strikes is based on the assumption that escalation will remain below the nuclear threshold.[43] Pakistan, however, says large-scale incursions could lead to wider escalation.[44] Consequently, conventional force postures provide a complex grey zone in which signalling, readiness and rapid decision making have a direct effect on regional stability.

Maritime Deterrence & Naval Competition

The seas have become a new arena in the India-Pakistan rivalry. The Indian Ocean is strategic to both powers, especially the sea lanes off the Arabian Sea. India has embarked on blue-water ambitions: it now operates two aircraft carriers (INS Vikramaditya and its new INS Vikrant) and is expanding its submarine fleet to include nuclear-powered boats. India's Maritime Security Strategy (2015) even envisions sea control over crucial SLOCs, and by 2025, New Delhi proudly announced its navy would lead retaliation in the event of perceived Pakistani aggression.[45] On the nuclear front, India has the INS Arihant-class SSBNs carrying nuclear-capable ballistic missiles, and plans more SSBNs to ensure a survivable second-strike. These developments greatly enlarge India's retaliatory and coercive potential.[46]

Pakistan's naval response has been to strengthen *asymmetric* counters. The Pakistan Navy has acquired Chinese Hangor-class diesel-electric, Air-Independent Propulsion (AIP) submarines, with the first entering service around 2026.[47] Critically, Pakistan also fielded the Babur-3, a submarine-launched cruise missile, in 2017.[48] This effectively gives Pakistan an independent sea-based nuclear capability, further complicating the Indian navy's dominance. Pakistan's naval strategy emphasises littoral defence: its frigates, shore-based cruise missiles, and, soon, its eight new submarines work to raise the cost of any Indian blockade or attack.[49]

One analyst suggested that India's fleet, with carriers and missiles, could pre-emptively strike Pakistani bases like Karachi or Ormara, and urged countermeasures like dispersal and fortification.[50] In response, Islamabad has indeed diversified its fleet by establishing stations along the Makran coast and has sought deals for submarines and corvettes from allied nations.

Crises are also affected indirectly by the Navy deployments. As an example, in early May 2025, the two navies underwent a parallel exercise in the Arabian Sea, indicating the level of heightened alertness.[51] India also deployed a leased nuclear submarine, Chakra, during the Pulwama crisis of 2019 to signal a second-strike capability readiness. On the other side, Indian aircraft carriers are also not invincible because the Pakistan Navy has the capability to attack and destroy them. Another way that a maritime crisis may intensify is a threat of one party to blockade the other. In practice, as one analysis noted, "naval signalling", movements of ships and subs, became part of the back-and-forth during the Pahalgam episode.[52] Every sea action is a potential escalation of what is occurring on land; hence, naval force is an inseparable component of deterrence.

Rise of Techno-Deterrence

The past decade witnessed the huge integration of advanced technologies into the deterrence calculus. Both states are heavy users of ISR platforms: high-altitude drones, AWACS planes and spy satellites are used routinely. The availability of real-time intel reduces the decision cycle. For instance, in the conflict in May 2025 between India and Pakistan, AWACS and satellite networked feeds were used by both sides to control their air battle.[53] On the other hand, increased transparency runs the risk of additional disadvantages: secret deployment of submarines or missiles is more difficult to conceal, and the level of surprise is lower.[54]

Unmanned systems have demonstrated a growing deterrent value, and their transformation in this region has been mixed.[55] India's deployment of armed UAVs such as Heron TP appears to meet the need to have a dependence on stand-off precision and deniable options of coercion that lower the political threshold for resorting to the use of force across borders. Pakistan's development of armed and loitering UAVs has come behind instead of autonomy, as a needed counter to strengthen surveillance and strike denial, not unilateral escalation.[56] These platforms blur the lines between being an intelligence tool and an attack platform: An airspace-violating UAV can indicate reconnaissance, targeted killing, or preparation for larger strikes, increasing the risks for miscalculation. India's focus on precision systems like the BrahMos shows an attempt to use space below the nuclear threshold.[57] Pakistan's integration of armed UAVs, like the YIHA drone, combined with sophisticated radar and early-warning networks, limits this space, slowing down the reaction time and invalidating the presumption of surprise and/or free precise strikes.

The cyber domain has emerged as a new front. Both governments have invested in cyberwarfare units, and each accuses the other of frequent intrusions. In the May 2025 conflict, for instance, the Stimson Centre reports that hacktivist groups on both sides probed government networks, disrupting websites and communications (albeit without causing critical damage).[58] A dire danger is false signalling: a cyberattack on an early-warning system could spoof a missile launch and trigger a nuclear alert. Analysts warn that without clear cyber doctrines and communication channels, offensive cyber ops introduce ambiguity that could "destabilise deterrence" unless restrained.[59]

Finally, space-based assets are part of the deterrence picture. India has a more advanced space program, with spy satellites that can image Pakistani missile sites or troop movements.[60] With Chinese assistance, Pakistan has been attempting to build its own reconnaissance satellites. Surveillance can be carried out using space to improve transparency.[61] Overall, techno-deterrence has entered the stratosphere as well as cyberspace. Every innovation, whether it is AI algorithms or hypersonic missiles continue to compress the decision time and increases the risk of wrong calculation. Incorporating emerging technologies is disruptive, and their adoption by India can promptly create instability in the regional deterrence.[62]

During 2014–2025, South Asia thus saw an arms race far beyond nuclear weapons. Deterrence has now gone vertical, nuclear to the tactical, and horizontal, on land, sea, air, space, and cyber. Practically, this layering translates to the fact that crises are being combated on various fronts, and the same message in one domain intensifies another. The net impact is a less rigid and more complicated deterrence environment, which conveys more instruments to forestall war, but also more channels through which misunderstanding or misadventure can occur.

Cross-Domain Deterrence and South Asia

In South Asia's multi-layered environment, signals in one domain inevitably influence perceptions in others. A missile launch from the sea can be interpreted as a warning to avoid a ground invasion; an aggressive naval blockade can be read as the prelude to an air strike; cyber intrusions might be seen as preparation for kinetic attacks. The May 2025 conflict again provides lessons: Pakistan's cross-domain Marka-e-Haq involved not just counter-strikes by artillery and air, but simultaneous cyber operations and information warfare to mirror India's multi-dimensional offensive.[63] Conversely, India's strikes under "Operation Sindoor" and its communications shaped Pakistan's view of the conflict.

Leadership decisions on nuclear posture are profoundly shaped by what others conventionally do. For example, an Indian aggressive build-up or exercises near the border may prompt Pakistan to signal the other side that Pakistan is ready.[64]

Similarly, Pakistani naval deployments (e.g., positioning submarines off the Indian coast) could make Indian planners more cautious about extending conflicts at sea, aware that Pakistan holds a sea-based nuclear deterrence in the form of the Sea-launched cruise missile Babar 3, which is nuclear-capable.[65] In other words, an adversary's posture in one arena (sea or air) can raise the other's nuclear-threat ceiling.

Maritime actions also influence land/air thinking. India's naval blockade operations in past crises (e.g., 1999 and 2001) have made Pakistan prioritise securing its own ports and sea lanes. More subtly, the growth of India's carrier capability after 2019 was a signal to Pakistan that any new war might start at sea.[66] During the May 2025 conflict, unverified claims circulating in Indian media about a purported Indian carrier strike on Karachi, later debunked, highlighted how maritime rumours can rapidly generate pressures for heightened readiness on land, underscoring the destabilising potential of misinformation even in the absence of actual escalation.[67] Meanwhile, Pakistan's public announcements of submarine patrols function as deterrent threats to anyone considering a deep strike on Pakistani territory, nudging India to focus on lower-intensity options.

Cyber and electronic warfare often *amplify or attenuate* signals from traditional domains.[68] A cyberattack on communications can isolate leaders or confuse them, affecting how they interpret a conventional move. Conversely, overt cyber probing sent a message of resolve: each side demonstrated it could disrupt the other's networks, raising the cost of misstep.[69] ISR technologies also cross domains: the use of AWACS or satellites to track submarines or missile convoys means that even a covert mobilisation in one theatre may be visible and treated as hostile in another.[70]

These overlaps create both deterrent strength and risk. On one hand, layered deterrence means an attacker must fear retaliation from multiple quarters; an Indian ground invasion might provoke Pakistani artillery, an airstrike, or a salvo of cruise missiles, for instance.[71] On the other hand, ambiguity grows. If a radar picks up a missile launch at sea, is it aimed at enemy ships or part of an aerial stand-off? If India spreads mines in the Arabian Sea, does that signal a blockade or preparation for broader war? The failure to clearly communicate intent can spiral fast: during the crisis, for example, Indian media falsely reported an "imminent" attack on Karachi, prompting Pakistan to raise alerts; in turn, Pakistani officials leaked partial footage to claim Indian casualties, fuelling Indian nationalist fury.[72] Such feedback loops show how layered deterrence can feed misperception.

Case Study: May 2025 Conflict

Background and Sequence of Events

The conflict in May 2025 clearly demonstrated that escalation may be fuelled by multi-domain operations and false assumptions. On 22 April 2025, there was a separatist attack on Pahalgam in Indian Illegally occupied Jammu and Kashmir, resulting in the death of 26 people.[73] No group claimed responsibility, but India held Pakistan to blame immediately. New Delhi initiated Operation Sindoor on 6-7 May: missile attacks to the depth of Pakistani Punjab and Azad Kashmir, destroying mosques and accusing them of being terror bases. The media in India described this retaliation as surgical; however, Pakistan reported civilian casualties and injuries.[74]

Pakistan responded to the Indian aggression by conducting Operation Marka-e-Haq. A counterattack was carried out by Pakistani troops in the form of artillery and drone attacks on Indian posts.[75] On 7 May, the two air forces engaged in an unprecedented Beyond Visual Range (BVR) air-to-air fight in which more than 100 aircraft from both sides participated, with Pakistan deploying JF-17s, J-10Cs and F-16s against a larger Indian formation that included Rafales, Su-30s, MiG-29s and Mirage-2000s, all while remaining within their respective airspaces.[76] Pakistan shot down six Indian jets during this confrontation, including advanced fighters, a claim supported by multiple detailed assertions and tail-number disclosures, even as India initially made no such claim and subsequently downplayed its losses while asserting later that it had downed Pakistani aircraft.[77] This narrative was widely challenged as implausible and lacking transparent evidence. Both sides claimed victories, and each blamed the other for downing jets.

On 10 May, the violence was brought to a halt by a ceasefire brokered by the US. No territory was annexed on either side; no one suffered extensively, as in an actual war. The trouble, however, had rattled nerves. India had termed it as a new normal of cross-border strikes, and Pakistan had stated clearly that any further aggression would be reciprocated with a reaction that would be much more than the aggressors had anticipated.[78] In media and military headquarters on both sides, the message was that nuclear weapons imposed a threshold, but the ladder below could still burn.

Rhetorical Escalation and Alert States

Rhetoric soared on both sides. In Pakistan, leaders publicly welcomed the military's clear victory and unity, with slogans about Islamabad responding decisively beyond proportion to any provocation.[79] Both Pakistani and Indian politicians went on national television to underline that "the battle-hardened army" had thwarted the other side, and flouted threats of retaliation.

In India, Prime Minister Modi and military officials emphasised that the strikes were precise and limited to terrorist targets, subtly signalling the capacity to escalate if necessary.[80] Both sides sought to demonstrate resolve to domestic audiences, with the Indian Hindutva-led government particularly keen to project strength ahead of the Bihar elections, leveraging the operations to bolster public support and electoral prospects.[81]

There was a significant increase in alert levels in the region: Indian forces raised more paramilitary and territorial units and strengthened logistical support of forward deployment, and Pakistani formations were moved to the forward positions, and air-defence preparations were increased.[82] Naval patrols and other naval precautions were intensified, and both sides were repositioning and reorganising the command and control. The US missions in India and Pakistan issued several security alerts and changed their consular routines as events unfolded.[83] As of mid-May, the state of affairs had ascended to the highest operational level in decades, although a gradual diminution of activity and encouraging power processes was later bargained by senior military channels.[84] These statements and empirical indicators, cumulatively, support the argument that the May 2025 Crisis was reflected in rhetorical escalation and the consequences spilt over to the regional theatre and had regional strategic effects.

Cross-Domain Activity and Signals

Crisis Signalling crossed several areas. The movements of the troops on the ground gave a message of determination, while the radar and radio exchanges between the jets in the air produced raw data that analysts were scrambling to process.[85] Pakistan's submarine patrols at sea were a hint that any Indian attack on major cities would be responded to with a counterstrike on ports in India.[86] Cyber attacks, such as small-scale Web defacements or disrupting electrical grids, not only humiliated the enemy but also proved preparedness.[87]

Media and Public Narrative

The media on both sides played a heightened role. Indian television quickly reverted to jingoism.[88] News channels broadcast “breaking news” banners and emotional anchors, often without verifiable facts. One anchor even announced dramatic images that turned out to be from unrelated conflicts.[89] Meanwhile, Pakistan’s media, closely reflecting official accounts, highlighted the resilience of civilians amid Indian strikes and showcased Pakistan’s success in downing Indian jets. Social media narratives reinforced national solidarity, countering Indian disinformation and exaggerations. While false reports of Indian strikes on Pakistani cities circulated in India, Pakistani military updates clarified the facts and underscored Indian losses, projecting a narrative of effective defence and operational competence.[90]

The resulting "information warfare" amplified war-psychology: in India, viewers were persuaded of a decisive Pakistani "threat", in Pakistan, citizens were rallied against a supposed Indian "provocation." These narratives inflamed public opinion and may have cornered leaders; each side's government now had to appear firm, lest critics accuse them of weakness.

Moments of Misperception and Friction

Several flashpoints highlighted the fragility of the crisis, but Pakistan managed them with restraint. The false Karachi strike rumours circulating in Indian media, though quickly debunked, were leveraged in Pakistan to expose the dangers of misinformation and reinforced public awareness of India's aggressive posturing.[91] Contested dogfight claims further fuelled Indian attempts to exaggerate Pakistan's losses, yet Pakistan maintained disciplined communication, avoiding over-escalation while clearly signalling capability.[92] While Pakistan emphasised strong deterrent messages, including warnings of "catastrophic consequences" for any aggression, these were framed to reinforce defensive resolve rather than suggest first-use intentions.[93] These incidents demonstrate Pakistan's measured approach in navigating conventional tensions under the nuclear overhang, preventing miscalculation despite aggressive Indian rhetoric.

Lessons on Layered Deterrence

The Pahalgam episode shows various aspects of South Asian deterrence. To start with, it displays weakness in the face of layered deterrence. Conflict at lower levels still occurred even in the presence of nuclear. The nuclear deterrence appeared to have put total war under control, yet failed to ensure the control of India attacking Pakistan and vice versa. Second, crises today are evolving on a multi-dimensional level. Traditional strikes, drones, and cyber-attacks worked concurrently. Third, communication is paramount but faulty. The lack of dependable real-time avenues ensured that each faction had to frequently make speculations about the other based on media clatter and propaganda analysts. Fourth, popular discourse and nationalism may keep leaders on the defensive or performance front, even when war may simply be unprofitable to both nations. Concisely, the Pahalgam crisis proved that the stability of South Asia is on a thin layer of deterrence and image management. Both sides have to constantly consider the signals they receive and send across land, sea, air, and cyber to prevent undesirable escalation.

Decision-Making Under Crisis: Human and Political Dimensions

Deterrence may be technical, yet the implementation is extremely human-level. Leaders and commanders make interpretations of threats through the use of cognitive bias and political filters.

Psychology is important: when making judgments, decision-makers will simplify complicated signals, frequently perceiving threats where they do not exist. Risky shift and groupthink have been observed in hot crises in South Asia; small misjudgements can trigger an amplifying spiral among advisors fearing being blamed by others who do not take action.[94] During the conflict of May 2025, there was time pressure: the two governments had little time to organise major strikes.[95] They were compelled to use snap judgments of unclear data due to short timelines, increasing the risk of inaccurate judgment.

The preconceptions and perceptions of leaders are also a factor.[96] The decision-makers of both sides have their histories: Pakistani leaders have seen India as the main aggressor in the region. On the other hand, Indian leaders tend to assume that Pakistan is primarily concerned with cross-border terrorism, supporting mutual suspicions and shaping how each party perceives threats.[97] Such attitudes may misjudge conclusions: something done in self-defence by one party can be interpreted immediately as offensive by the other. During a crisis, nationalistic presumptions, e.g., our Army is invincible, tend to tint threat evaluations.[98] This is underlined in academic literature on Indo-Pak crises: Leaders indulge in posturing of populism, in order to please domestic audiences, frequently blowing threats out of proportion to seem decisive. The rhetoric can drive political leaders to extremes, and this is what is exemplified today by the vocal nationalist media in India.[99]

Crisis decisions are also restricted by domestic politics.[100] Governments in India will always attempt to retain popular approval and institutional goodwill. A leader who can be seen to be under pressure from the other side and is under a time constraint to provide an answer would risk losing legitimacy back at home.[101] The longstanding campaign of Prime Minister Modi in India demands projecting might at home and abroad.[102] In this way, given electoral and political factors, the leash can be shortened: neither of the leaderships can afford to retreat once the nationalistic tide gains strength.[103] This dynamic has been evident when Indian news media utilised hyperbolic images to fuel the feelings of the people, which has restricted the strategic manoeuvre of New Delhi.[104]

In addition, there are limited communication channels during a crisis. Hotlines are present between Delhi and Islamabad, but they are infrequent.[105] Timely dialogue is usually hampered by bureaucratic inertia and mistrust. There was no official communication between the militaries in the May conflict until the US intervened.[106] In their place, backchannels and international mediators contributed to the defusing of the crisis.[107] The absence of face-to-face crisis-management interactions adds to the chance of misinterpretation. In cases where leaders are unable to study the moves of an adversary physically, they can fall back on worst-case assumptions.[108]

Lastly, time compression during the contemporary conflict is a source of stress. The advancement of ISR and long-range weapons implies that both parties are required to make decisions in minutes, whether a developing radar blip represents an error or the beginning of war.[109] This also reduces the consultation time, and it heightens the risk of accidental escalation. When this happens, decisions can be skewed by cognitive bias (loss aversion, the propensity to retaliate aggression with aggression, etc).[110] The leaders might know nothing about the devastation of nuclear war; in this case, they should act in accordance with the theory of deterrence, but not with intuition in crises.[111]

Perception-based deterrence, threats that must be believed, not just declared, is inherently unstable when filtered through national psychology and politics. The Pahalgam crisis showed how quickly rhetoric can outrun reason, and how fixed narratives can escalate a limited incident. It underscores that even with nuclear deterrence, crises can get dangerously out of hand before leaders pause.

Implications for South Asian Stability

South Asia's security today is the product of more than a simple nuclear balance. The May 2025 conflict demonstrates that nuclear weapons alone no longer guarantee peace, instead, a multi-dimensional balance is the key. Pakistan's view is that stability requires not only mutual assured destruction but also proportional conventional deterrence, resilient maritime capabilities, and the restrained use of emerging technologies. If any domain grows uncontrollably, it could upset the whole equilibrium.[112] For example, many analysts point out that India's rapidly expanding arsenal of fissile material and new delivery systems (canisterized missiles, rail-based launchers, and MIRVs) undermines the older concept of MAD.[113] Likewise, India's deepening naval relationships give it strategic access that Pakistan can't directly match. There is also a concern about India developing conventional versions of ICBMs, thus blurring the fine line between nuclear-tipped and conventional missiles, and creating uncertainty. According to SIPRI year book 2026, India's mating and deployment of nuclear weapons in peacetime[114] indicates regional instability.

In this case, transparency and communication have become more than ever a gateway to stability. Well-developed channels and a clear indication of intent can help prevent the routine motions from being misinterpreted as aggressive. Both governments have already signed confidence-building measures (CBMs) such as pre-notification of exercises or missile tests. Similarly, significant concerns have been expressed by military thinkers to ensure that nuclear posture remains in sync with proclaimed doctrine systems so as not to lose credibility. Ideally, the dialogue and third-party monitoring, e.g., by UNMOGIP or third-country observers, mechanisms might be useful. In the May 2025 conflict, it was a US diplomatic shuttle, not the official hotline, that contained escalation. This implies that bilateral crisis management would enhance stability.

The second area of urgent interest involves dealing with cross-domain spill overs, as operations in one domain, e.g., naval manoeuvres or cyber operations, can be carefully mispackaged as preparatory measures to larger-scale warfare. Multilateral cooperation and regional stability have always been the major focus of AMAN naval exercises in Pakistan, indicating restraint. In comparison, India has tended to portray its actions, such as the 2025 operation, in a manner that inflates the views of the threat and legitimises its aggressive moves, expanding tension. This imbalance highlights the importance of orchestrated or false signalling by India to fuel crises and raise the potential of escalation despite a restrained intention of Pakistan.

Lastly, the emergence of technology necessitates new thinking. There is now open discourse in both countries on the topic of deterrence in the cyber age or AI. The 2022-26 security policy of Pakistan necessitates explicit reference to space and cyber domains in its deterrence policy. Experts caution that the battle might begin with AI or code, just like it begins with firearms. This observation explains why regional stability can depend on accepted norms: a promise not to attack civilian infrastructures and limit the dissemination of fake news on social media in case of a crisis can greatly lower the chance of escalation. Without agreed red lines, as one commentator has cautioned, offensive cyber operations add an element of strategic ambiguity that is easily miscalculated.

Overall, although nuclear weapons have thus far deterred open war, they do not work alone in the current multipolar security environment, as Pakistan's concept of achieving nuclear equilibrium rests on maintaining a sufficient deterrent to dissuade India from aggression. Yet, credibility in all domains is necessary to achieve stability. In the case of Pakistan, this means having an effective conventional deterrence to balance its nuclear weapons, building maritime capabilities to match Indian naval interests, and incorporating new technologies, cyber defence, space-based surveillance, and precision into its strategy. According to Lieutenant General Nauman Zakria, "Pakistan's resolute response has effectively debunked the notion of space for war in South Asia."[115] Of equal importance is maintaining a clear and disciplined channel of communications, both diplomatic and military, to ensure deterrence signalling does not fail. India, in contrast, has habits of exaggerating threats, misusing media and crossing red lines, which increases chances of misperception and escalation.

Conclusion

The South Asian deterrence landscape is increasingly complex. The 2014-2025 period demonstrates that strategic stability relies on a combination of nuclear arsenals, capable conventional forces, blue-water navies, and advanced technological tools, all functioning in concert.

For Pakistan, the nuclear arsenal remains the ultimate guarantor of security, but it is the integration of these weapons with conventional and maritime capabilities that sustains a credible balance. The May 2025 conflict illustrates how cross-domain competition unfolds: a separatist incident rapidly escalated into a limited, multi-front, multi-domain confrontation. While this "deterrence by deterrents" can enhance stability by imposing costs across multiple channels, it also creates numerous points for misperception and miscalculation. Without disciplined doctrines, transparent communication, and sober awareness of escalation risks, crises are likely to flare repeatedly. In the context of cross domain capabilities, manifested during the India-Pakistan crisis of May 2025, it is clear that the space for a limited conventional war under the nuclear overhang is non-existent.

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