Documento
Opinión

34.1/2025 12/05/2025

Guillem Colom Piella *

Two doctrines and one destiny: India, Pakistan, and the Risk of Nuclear War

Two doctrines and one destiny: India, Pakistan, and the Risk of Nuclear War

Abstract:

The recent escalation of tensions between India and Pakistan following a terrorist attack in Kashmir has reignited concerns over a potential nuclear confrontation between the two powers. This Opinion Paper aims to analyze the nuclear doctrines, capabilities, and command-and-control structures of both countries within the context of the third nuclear age, characterized by the multiplication of actors, doctrinal diversification, and an increasing risk of escalation. India maintains a doctrine of credible minimum deterrence, no first use, and massive retaliation. However, its technological development and external threats – such as those posed by Pakistan and China – are straining this posture. Pakistan, on the other hand, has adopted a strategy of full-spectrum deterrence, which envisions the early use of tactical nuclear weapons to deter an Indian conventional offensive. Both countries operate in an unstable strategic environment, with opposing doctrines, vulnerable command structures, and low mutual trust, all of which increase the risk of miscalculation and unintended or accidental escalation.

Keywords: India – Pakistan – nuclear weapons – deterrence – third nuclear era.

How to cite this document:

COLOM-PIELLA, Guillem. *Dos doctrinas y un destino. India, Pakistán y el riesgo de una guerra nuclear.* Documento de Opinión IEEE 34.1/2025. enlace web IEEE y/o enlace bie[3] (consultado día/mes/año)

*__NOTA:__ Las ideas contenidas en los ***Documentos de Opinión*** son responsabilidad de sus autores, sin que reflejen necesariamente el pensamiento del IEEE o del Ministerio de Defensa.

Introduction

The recent escalation between India and Pakistan, triggered by the April 22 attack in Pahalgam (Indian-administered Kashmir), which left twenty-six dead, has once again placed South Asia at the center of global strategic concerns. New Delhi blamed the attack on the Resistance Front, a group linked to Lashkar-e-Taiba, and launched a retaliatory operation targeting nine alleged terrorist infrastructures on Pakistani soil. Islamabad denied any involvement, condemned the bombings as a violation of international law, and responded by downing aircraft and drones, intercepting missiles, and carrying out a coordinated airstrike in the Indian region of Jammu.

This confrontation has intensified along the Line of Control that separates the territories held by both countries in Kashmir, echoing the most critical moments of past crises such as Kargil (1999), Mumbai (2008), or Pulwama (2019). In parallel, India has suspended the Indus Waters Treaty – signed in 1960 to regulate the distribution of the Indus river system waters, which flow through both countries – an act Pakistan has described as a declaration of war. Both capitals have expelled diplomats, increased military exercises, and hardened their rhetoric, creating a tense climate that has escalated into a, so far, limited military exchange.

In response, major powers like the United States and China have called for restraint, fearing that an open war between these two nuclear-armed nations could spiral into a nuclear conflict with unpredictable consequences for regional and global security.

In a context marked by the erosion of the non-proliferation regime, the modernization of arsenals, and a lowering of the nuclear threshold, the Indo-Pakistani case illustrates the emerging risks of the third nuclear age. Unlike the structural balance achieved between the United States and the Soviet Union during the Cold War, the relationship between India and Pakistan unfolds within a logic of asymmetric rivalry, shaped by

historical mistrust, recurring conflicts, and the lack of mutual confidence-building measures and effective crisis management mechanisms. This article analyzes the evolution, characteristics, and risks of the nuclear arsenals of these two growing powers, whose divergent strategic cultures and increasingly ideologized foreign policies form a dangerously unstable combination that could trigger an unintended nuclear escalation—or an atomic conflict born of simple miscalculation.

The third nuclear age and Inherent Instability

Since the advent of nuclear weapons, the development, use, and strategic significance of these devices have evolved notably, giving rise to distinct "nuclear ages." The first (1945–1991) was shaped by bipolar deterrence between the United States and the Soviet Union, in which the balance achieved through Mutually Assured Destruction (MAD), alongside mutual confidence-building measures and arms control regimes, provided the system with notable stability and predictability. The second (1991–2020) was marked by the end of bipolar deterrence and the emergence of new nuclear actors. Horizontal proliferation, technological advancements, and doctrinal diversification – especially among regional powers in the Global South – eroded the classical logic of deterrence. In this context, the Kargil conflict (1999) between India and Pakistan illustrated the limitations of the traditional deterrence model and revealed the risks of escalation between non-Western nuclear powers.

Finally, the third (2010–present) is defined by increasing strategic complexity, in which established nuclear powers, revisionist actors, and hybrid threats coexist. Nuclear doctrines have become more diverse: while some states uphold minimal deterrence postures, others have adopted more aggressive approaches, including first-use or limited-use doctrines. This environment encourages the use of conventional force under

the cover of the nuclear umbrella, drives the development of tactical and theater nuclear weapons, and intensifies cross-domain interactions (such as in space or cyberspace), thereby increasing the risk of escalation[1].

In this context, the nuclear rivalry between India and Pakistan constitutes one of the most significant expressions of the strategic challenges posed by the third nuclear age. And for good reason: the fragile deterrence between both countries is strained by a wide range of factors, including structural asymmetries, the absence of effective crisis management mechanisms, the weakness of their command and control systems, the proliferation of new devices, the development of novel capabilities, the design of more assertive doctrines, and growing regional instability. These factors will be examined below.

India's Nuclear Arsenal

India developed its nuclear program in a context shaped by defensive and strategic imperatives. The defeat in the Sino-Indian War (1962) and China's entry into the nuclear club two years later pushed New Delhi to preserve its strategic autonomy through indigenous capabilities. In 1974, India conducted its first nuclear detonation – code-named *Smiling Buddha* – which was presented as a "peaceful nuclear explosion." This doctrinal ambiguity would persist for over two decades until 1998, when India formally declared itself a nuclear weapons state following a series of underground tests (*Pokhran-II*), accompanied by the public articulation of its nuclear doctrine[2].

[1] Vipin Narang: *Nuclear strategy in the modern era: Regional powers and international conflict*. Princeton University Press, 2014 o Elbridge Colby y Michael Gerson (eds.): *Strategic stability: contending interpretations*. Carlisle Barracks: Strategic Studies Institute, 2013.

[2] George Perkovich: *India's Nuclear Bomb: The Impact on Global Proliferation*. Oakland: University of California Press, 1999.

Unlike other nuclear-armed states, India has not signed the Nuclear Non-Proliferation Treaty (NPT), arguing that it enshrines a double standard by legitimizing the status quo of recognized nuclear powers while restricting others' access to nuclear technology. This stance has reinforced India's narrative as a responsible and autonomous power[3].

Today, India is estimated to possess around 180 nuclear warheads[4], supported by an evolving nuclear triad. The Agni family of ballistic missiles represents the land-based component, with ranges varying between 700 and 8,000 kilometers. The air-based leg relies on free-fall nuclear bombs integrated into fighter jets such as the *Mirage 2000*, *Jaguar*, and *Su-30MKI*. The naval pillar, still incipient, centers around two *Arihant*-class ballistic missile submarines, equipped with intermediate-range *Kalam-4* missiles, and aimed at providing India with a credible second-strike capability.

India's nuclear doctrine rests on three core pillars: Credible Minimum Deterrence, a No First Use (NFU) policy, and the threat of massive retaliation in the event of a nuclear attack[5]. This posture is intended to project an image of strategic responsibility in contrast to more flexible – and aggressive – doctrines like that of Pakistan, and seeks to avoid an uncontrolled arms race.

However, India's nuclear doctrine has come under review over the past decade. Various statements by officials, including former defense ministers and national security advisers, as well as unofficial doctrinal documents, have suggested that the no first use (NFU) policy could be reconsidered in light of emerging threats such as hypersonic

[3] More specifically, India considers that the NPT – signed in 1968 and in force since 1970 – makes a discriminatory distinction between the five states recognized as nuclear powers (the United States, Russia, the United Kingdom, China and France) and the other countries, which India perceives as a form of nuclear apartheid. (Ramesh Thakur: *The Politics of Nuclear Non-Proliferation*. Nueva York: United Nations University Press, 2006).

[4] Kristensen, Hans et al. (2025, 26th March): "Status of World Nuclear Forces", *Federation of American Scientists* [online] https://fas.org/initiative/status-world-nuclear-forces/

[5] Harsh Pant: "India's Nuclear Doctrine and Command Structure: Implications for Civil–Military Relations in India". *Armed Forces & Society*, 33 (2), pp. 238-264, 2007.

missiles, China's anti-missile systems, or potential strategic cooperation between China and Pakistan[6]. This ambiguity has introduced a more dynamic and unpredictable dimension to India's nuclear policy, thereby increasing the risk of inadvertent or unintended escalation with Pakistan.

Table 1: Indo-Pakistani nuclear capabilities

	India	Pakistan
Nuclear Doctrine	Credible minimum deterrence, no first use, defensive and cautious posture	More aggressive doctrine, early and tactical use, flexible and ambiguous deterrence
Strategic Posture	Defensive, focused on deterrence to prevent major conflicts	More offensive, allowing nuclear use in conventional scenarios
Nuclear Capabilities	Nascent nuclear triad, ongoing modernization	Tactical arsenals, second-strike capability with allied support
Command and Control	Reliable systems but structured for defensive use, with greater predictability	Command pressured by the need for rapid response, more flexible systems but higher risk

India's nuclear triad has developed unevenly. While the land-based component has achieved greater maturity – with capabilities such as the *Agni-V* intercontinental ballistic missile – the air-based leg depends on foreign platforms that are not fully integrated into an autonomous nuclear system. At sea, the commissioning of the *INS Arihant* in 2016 marked a symbolic milestone, although its limited endurance and the short range of its *Sagarika* missiles (700–1,500 km) initially cast doubt on its effectiveness as a second-strike platform. However, the deployment of the *Kalam 4* missile (3,500 km) and the launch of the *INS Arighaat* have significantly improved this capacity, at least in theory.

[6] Lora Saalman (2020, 2nd December): "India's no-first-use dilemma: Strategic consistency or ambiguity towards China and Pakistan", *SIPRI blog* [online] https://www.sipri.org/commentary/blog/2020/indias-no-first-use-dilemma-strategic-consistency-or-ambiguity-towards-china-and-pakistan

India's nuclear command and control system is managed by the Nuclear Command Authority (NCA), a dual structure designed to ensure civilian control over the use of nuclear weapons. The Political Council, chaired by the Prime Minister, has the final authority to authorize use, while the Executive Council – composed of military and technical experts – advises and implements strategic decisions. This configuration reinforces political centralization and civilian oversight, which are essential to a credible minimum deterrence doctrine. In peacetime, warheads are stored separately from their delivery systems under military custody, which reduces the risk of accidents, unauthorized use, or inadvertent escalation[7].

Nevertheless, this model presents vulnerabilities during crises. The need to rapidly mate warheads with delivery systems in the face of an imminent threat may create pressure to shorten decision-making times or raise alert levels, thereby increasing the risk of accidental escalation or even preventive nuclear use[8]. These dynamics are exacerbated by India's limited early warning capabilities, which still rely heavily on ground-based sensors with little space-based coverage, hampering real-time detection of incoming attacks[9]. Moreover, potential communication failures could lead to hasty decisions based on incomplete or inaccurate information, undermining strategic stability and triggering a nuclear conflict.

These structural weaknesses are amplified by the regional strategic environment. On one hand, Pakistan's doctrine of "full spectrum deterrence," which envisions the anticipatory use of tactical nuclear weapons in response to a conventional offensive,

[7] Rajesh Basrur: *Minimum Deterrence and India's Nuclear Security*. Stanford: Stanford University Press, 2006.
[8] Paul Kapur: *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia*. Stanford: Stanford University Press, 2007.
[9] James Acton: "Escalation through Entanglement: How the Vulnerability of Command-and-Control Systems Raises the Risks of an Accidental Nuclear War". *International Security*, 43 (1), 56-99, 2020.

significantly narrows India's margin of maneuver. On the other hand, the modernization of China's nuclear arsenal and its growing presence in the Indian Ocean compel New Delhi to extend its deterrence focus beyond the subcontinent.

In this context, the conventional military doctrine known as "Cold Start", conceived in the early 2000s, takes on renewed relevance. Though never officially acknowledged, Cold Start envisions swift and limited conventional retaliations on Pakistani territory in response to provocations or crises, without crossing the nuclear threshold. While its formal status remains ambiguous, the development of more mobile forces and more agile command structures suggests a clear intention to enhance India's conventional response capabilities. However, Islamabad perceives this posture as an existential threat, reinforcing its logic of preemptive deterrence and further increasing strategic instability in South Asia.

In short, India's case clearly reflects the tensions inherent in the transition from the second to the third nuclear age. Its doctrine, based on credible minimum deterrence and no first use, aims to project strategic responsibility and avoid an unchecked arms race. However, this approach is under increasing strain due to a more unstable regional environment, the modernization of Chinese and Pakistani arsenals, technological advancements, and internal debates over the relevance of traditional nuclear principles.

Additionally, India's command and control system prioritizes political centralization and civilian oversight, but in crisis scenarios it faces operational dilemmas—such as the need to shorten response times or raise alert levels—that pose risks to stability. The paradox is clear: the very mechanisms designed to prevent accidental use of nuclear weapons

could, under certain circumstances, actually increase the danger of inadvertent escalation[10].

India thus finds itself at a strategic crossroads. As a regional nuclear power with global ambitions, it must adapt its doctrine to a more competitive environment without losing deterrent credibility or abandoning its profile as a responsible actor. Its ability to balance these tensions will be key to maintaining strategic stability in a subregion where its main antagonist is also actively reviewing its doctrine and expanding its nuclear arsenal.

Pakistan's nuclear arsenal

Pakistan, for its part, initiated its nuclear program as a direct response to the strategic trauma of the 1971 Indo-Pakistani war and India's 1974 nuclear test. Since then, despite technological restrictions and international pressure, it has developed a considerable arsenal. It is estimated that Pakistan possesses around 170 nuclear warheads—a number that continues to grow thanks to its domestic capacity to enrich uranium and produce plutonium in reactors such as those at Khushab[11]. Like India, Pakistan has not signed the Non-Proliferation Treaty (NPT), arguing that it establishes an unfair regime by recognizing only five states (those that tested before 1967) as legitimate nuclear powers and maintains that its nuclear policy is a direct response to India's program.

Operationally, Pakistan has structured its nuclear force to ensure a flexible and credible deterrent, adapted to its peculiarities and inherent limitations. On land, the country operates a wide array of ballistic missiles, including the *Shaheen-I*, *Shaheen-II*, and *Ghauri* systems, with ranges between 750 and 2,750 kilometers. The deployment of

[10] Michael Krepon y Julia Thompson (eds.): *Deterrence Stability and Escalation Control in South Asia*. Nueva York: Stimson Center, 2013.
[11] Kristensen et al., *op cit.*

the *Nasr* – a short-range ballistic missile (60–70 km) designed to carry tactical nuclear warheads – reflects a shift toward early-use doctrines in response to conventional threats, especially those envisaged in India's "Cold Start" strategy. In the air domain, Pakistan has modified aircraft such as the French *Mirage III*, the American *F-16 Fighting Falcon*, and the Chinese *JF-17 Thunder* for nuclear missions. Additionally, it has begun developing a nascent second-strike capability through the *Babur-3* submarine-launched cruise missile, although its reliability remains uncertain. Given the limitations of its submarine leg of the nuclear triad, Islamabad may have considered outsourcing this capability through secret agreements with Saudi Arabia, with whom it maintains a privileged strategic relationship that could include reciprocal access to sensitive military infrastructure[12].

Doctrinally, Pakistan has evolved from a strategy of existential deterrence – focused on avoiding conventional defeat – to a posture of full spectrum deterrence. This blend of tactical and strategic options aims to deter not only nuclear attacks but also limited conventional aggression by India[13]. In contrast to India's doctrine, Islamabad explicitly rejects the no first use policy and deliberately maintains ambiguity about its nuclear employment thresholds. This ambiguity seeks to inject uncertainty into India's strategic calculations but simultaneously increases the risk of rapid escalation, especially during crises[14].

Pakistan's nuclear command and control system bears certain similarities to India's, being formalized under the National Command Authority (NCA). Established in 2000, this

[12] Bruno Tetrais: "Pakistan's Nuclear Posture: A Status Review", *Proliferation Papers*, 53, IFRI, 2015. In fact, Saudi Arabia is said to have financed part of Pakistan's nuclear program in exchange for eventual deterrent access.

[13] Amber Afreen: "The Efficacy of Pakistan's Full Spectrum Deterrence", C*ISS Insight: Journal of Strategic Studies*, 11 (1), 1-21, 2023.

[14] Ashley Tellis: *Striking Asymmetries: Nuclear Transitions in Southern Asia*. Nueva York: Carnegie Endowment for International Peace, 2022.

dual structure includes a civilian component – chaired by the Prime Minister and supported by the Development Control Committee – and a technical-operational component led by the Strategic Plans Division, which coordinates the arsenal's security, planning, and logistics[15]. In peacetime, nuclear warheads are kept separated from their delivery systems.

However, this architecture also presents vulnerabilities. The logic of full spectrum deterrence demands a rapid response capability, particularly with tactical nuclear systems potentially deployed near the Line of Control in Kashmir. This reduces decision-making time and may erode centralized control, opening the door to unauthorized use or hasty decisions based on faulty signals. In addition, Pakistan's early warning infrastructure remains rudimentary, relying heavily on ground-based sensors, which hinders real-time detection of incoming attacks and may lead to decisions made on incomplete or inaccurate data.

Moreover, the persistent threat of Islamist infiltration or radicalization within sectors of the Pakistani military poses a structural risk. Although military leadership has professionalized arsenal management and improved security protocols, lingering fears remain over the possibility of unauthorized access or insubordination in a politically unstable environment[16].

The history of crises between India and Pakistan highlights the fragility of regional nuclear stability. During the Kargil War, the Mumbai attacks, and the Pulwama incident, both countries undertook significant military mobilizations accompanied by nuclear signaling, greatly increasing the risk of escalation. These periods of high tension – marked

[15] Hans Kristensen; Matt Korda y Eliana Johns: "Pakistan Nuclear Weapons, 2023." *Bulletin of the Atomic Scientists*, 79 (5): 329-45, 2023.

[16] Robert Oakley y Franz-Stefan Gady: "Radicalization by Choice: ISI and the Pakistani Army". *Strategic Forum*, 247, 2009 [online] https://digitalcommons.ndu.edu/strategic-forums/47.

by the absence of robust communication channels, lack of transparency, and intense public pressure – dangerously brought conventional conflict close to the nuclear threshold.

Conclusions

The comparison between the nuclear doctrines of India and Pakistan highlights the transformations of the strategic environment in South Asia and sheds light on the doctrinal, technological, and political shifts that characterize the second and third nuclear ages. Both powers have developed significant nuclear arsenals, with doctrines tailored to their specific strategic contexts. While India has opted for a more restrained approach—based on credible minimum deterrence and a no first use policy—Pakistan has adopted a more aggressive and ambiguous doctrine that includes the possibility of early and tactical use of nuclear weapons. Rather than stabilizing the region, this doctrinal divergence exacerbates the risk of escalation in the event of a conventional conflict.

India's case reflects the dynamics of the second nuclear age: gradual modernization, the consolidation of an incipient nuclear triad, and a formally defensive doctrinal stance, albeit with growing strategic flexibility. In contrast, Pakistan's doctrine embodies the tensions of the third nuclear age: lower thresholds for use, the proliferation of tactical nuclear weapons, a command and control system under pressure to respond rapidly, and the dangerous externalization of its second-strike capability. The action-reaction logic between the two powers has generated a classic offensive spiral, where every doctrinal or technological innovation is perceived by the adversary as an existential threat.

This context presents a complex reality: there is no current or foreseeable prospect of strategic stability between India and Pakistan. Although nuclear deterrence has thus far prevented a full-scale war, the coexistence of asymmetric doctrines, the absence of basic

crisis management mechanisms, and the growing influence of nationalism all diminish predictability and heighten the risk of unintended or inadvertent escalation. Pakistan's introduction of tactical nuclear weapons and India's development of counterforce capabilities reinforce the dangerous stability–instability paradox: this precarious balance may actually encourage limited conventional conflicts under the belief that deterrence will hold… which could swiftly spiral into nuclear confrontation.

In the coming years, it is likely that both countries will continue to upgrade their arsenals with hypersonic delivery systems, anti-satellite weapons, and automated command and control infrastructures. The growing permeability between conventional, cyber, and nuclear spheres—particularly in limited war scenarios—further complicates risk management. In the absence of mutual confidence-building measures, arms control agreements, or "hotlines" between the two capitals, each crisis between India and Pakistan will remain a disproportionate threat to both regional and global security.

In short, Pakistan's case encapsulates several core challenges of the second and third nuclear ages: growing arsenals, aggressive doctrines, decentralized control under crisis conditions, and high levels of uncertainty. The combination of tactical nuclear capabilities, compressed decision-making timelines, and weak mutual confidence-building measures creates a highly unstable deterrence environment—one in which any miscalculation could trigger a catastrophic escalation. Unfortunately, such a scenario cannot be ruled out in any future projection.

*Guillem Colom Piella**
Doctor en Seguridad Internacional
Profesor asociado del IEEE
@gcolpie