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PAKISTAN'S NUCLEAR WEAPONS PROGRAM

Hannah Haegeland and Arzan Tarapore

The India-Pakistan strategic rivalry has produced four conventional wars (in 1947–48, 1965, 1971, and 1999), fueled several internal insurgencies, and inhibited economic and diplomatic cooperation across the region. For decades after independence, India held clear and growing strategic advantages in this rivalry—underscored by the 1971 war, when it sliced Pakistan in half. In response to this lopsided equation, Pakistan's leaders hoped that the acquisition of nuclear weapons would guarantee the state's survival and place it on more equal political and military footing. So important was this capability that Pakistan's then-Foreign Minister, Zulfikar Ali Bhutto, famously swore that already-impooverished Pakistanis would “eat grass” if necessary to acquire it.

While several motivations coincided in this major national commitment, the origins and evolution of Pakistan's nuclear weapons program can best be explained through the lens of realist international relations. Nuclear weapons were primarily a tool to promote national security and political interests. Pakistan's leaders expected nuclear weapons would limit the threat of Indian military power, allow it to more freely pursue its policy goals in contesting control of Kashmir, and cement its leadership in the Islamic world.

We argue in this chapter that the actual record has been decidedly more mixed. India has likely been deterred from using military force above a limited threshold because of Pakistani nuclear weapons. But Pakistan is no closer to realizing or legitimizing its claims on Kashmir, and the evolution of its nuclear posture, interacting with changes in India's approach to the use of military force, has created a range of new risks for strategic stability. And even after establishing nuclear deterrence, the Pakistani state continues to expend scarce resources on security against India—including continued development of its nuclear arsenal—at the expense of economic prosperity.

This chapter traces the origins and evolution of Pakistan's nuclear weapons program in three sections. First, we argue that Pakistan pursued a nuclear weapons capability primarily for security reasons. Second, we argue Pakistani nuclear capability has iteratively interacted with Indian military developments, lowering the threshold for nuclear use. And finally, briefly, we outline a range of new strategic conditions that will have unpredictable consequences for the program.

Motivations and Origins

The creation of a nuclear weapons program requires both means and motives. While materials, technology, and scientific and engineering expertise are critical among the necessary means, empowered and motivated stakeholders set possessor states apart. Study of the history of Pakistan's nuclear weapons program has been limited by data access challenges, but enough is known to identify key players and strategies.¹ The roles and preeminence of different drivers shifted as Pakistan moved from exploratory stages in the 1960s to active pursuit including espionage, technology acquisition, and enrichment in the 1970s and 1980s, and eventually to overt testing in 1998. Key domestic stakeholders for the origins of Pakistan's program include Foreign Minister and later Prime Minister, Z.A. Bhutto; the infamous spy, engineer, and proliferator, Abdul Qadeer Khan; and the Pakistan Army. Driving external forces at play included India, the United States, China, and Saudi Arabia, among other international players, with roles ranging from technical collaborators and political and financial patrons to potential adversaries.

Why did Pakistan pursue nuclear weapons and how did it go about it? Like all nuclear states, there were multiple, overlapping motivations including traditional models of security, domestic politics, and the pursuit of international prestige.² The bomb was a key element in Bhutto's nation-building efforts as the country's first civilian leader and an early and prolific communicator on postcolonial "third world" geopolitics.³ While the Pakistan Army has purview over the nuclear weapons program today, its early champions were civilians. Domestic competition among scientists and laboratories and among technocrats, scientists, and the military also impacted program development.⁴ And even the Pakistani public played an important role, providing consensus support for the nuclear weapons program, enabling alternating military and civilian leadership of the country to prioritize it over other national interests.⁵ The most common underlying thread in these different motivations is Pakistan's perceptions of a powerful and hostile India.

Pakistan's pursuit of nuclear weapons, therefore, can be explained broadly in realist terms: That is, Pakistan was responding to interstate competition for power and security. But, as we note above, Pakistan's response was not perfectly rational and it was not a unitary actor. Its interpretation of the international environment was filtered through a lens that magnified Indian power and perfidy, and its early nuclear program was subject to the interaction of multiple, often competing domestic actors. In that way, Pakistan's nuclear program can best be explained in a neoclassical realist paradigm, which sees states behaving in accordance with their relative power and security, albeit in ways mediated and distorted through the state's particular perceptions and domestic constraints.⁶

The literature on key security motivations for Pakistan developing nuclear weapons can be summarized in two broad categories. Initially, Pakistan worked toward a credible deterrent to create opportunities for favorably shifting its position vis-à-vis India, preventing or at least ensuring it would not lose a future conflict, and perhaps even to redraw territorial boundaries in Kashmir. Later (post-1971) security concerns were more urgently motivated by perceived existential threats, to secure Pakistan's survival as a state and safeguard against regime change.

Pakistan played a unique and pivotal role for the United States during the Cold War, and for a time the partnership had critical utility for the security and foreign policies of both countries. During the war, US nonproliferation objectives came into tension with strategic cooperation with Pakistan on other foreign policy issues, particularly related to the Soviet invasion of Afghanistan and the Iranian revolution.⁷ Pakistan leveraged this to adopt what one scholar labels a "sheltered" strategy to develop its program,⁸ using competing US policy

priorities to covertly develop its program without fear of reprisal, so long as it refrained from full weaponization. From 1986 to 1998, Pakistan then utilized its ambiguous nuclear capability to induce American intervention in its disputes with India.⁹

It is now clear that previous arguments about Pakistan's bomb being a simple response to India's 1974 "peaceful nuclear explosion" (PNE) are lacking. Before the Indian 1974 PNE, notably after incurring crippling losses in the 1971 India-Pakistan war, Pakistani decision-makers moved beyond exploring dual-use nuclear technologies and capabilities to covertly pursuing weaponization.¹⁰ Pakistan and India had recurring crises and two wars in the 1960s and 1970s, but it was the 1971 war resulting in the creation of Bangladesh that changed the equation for Pakistan, establishing an enduring and defining existential security concern. Not long after this pivot toward weaponization, Pakistani leaders began to credit their latent nuclear weapons capability with having bolstered Pakistan's position during crises, including the 1986–87 Brasstacks crisis.¹¹

Since Pakistan had not yet tested, ambiguity about how far along in the weaponization process its program was and associated warfighting capabilities posed planning problems for a potential adversary, in this case India. It is unclear whether or how Pakistan's recessed capability may have played a role in India's calculus during Operation Brasstacks and the crisis it prompted, or if there was any observable nuclear signaling. Practically, Pakistani signaling of its nearly complete nuclear weapons capability may have been aimed more at the United States than at India. Pakistan employed a tactic of drawing US attention to nuclear risks, inducing American crisis management involvement while still ensuring the United States would not impose sanctions under the "Pressler Amendment." Versions of this Pakistani tactic of drawing US attention to nuclear risks on the subcontinent have proven effective for over 40 years and still work during bilateral crisis to a more limited extent today. Ultimately, though, the fact that Pakistani leaders believed their nuclear capabilities successfully helped deter Indian aggression is salient to the origins of Pakistan's later declared nuclear doctrine which similarly relies on ambiguity, as well as for broader study of latent nuclear deterrence.¹²

Another important element of Pakistan's nuclear weapons program has to do with its history of what scholars call "horizontal proliferation," spreading nuclear technologies and science and engineering to other states. Pakistan's proliferation beneficiaries included Iran, Libya, and North Korea, largely through the illicit nuclear supplier network of A.Q. Khan operating from the 1980s through 2002.¹³ Historical accounts of A.Q. Khan highlight the sometimes defining role of actions by motivated individuals, state challenges to control all aspects of nuclear programs, and the potential for costly consequences of civilian-military leadership divides on critical national security issues.¹⁴ There is some debate over a "double standard" criticism that the United States treated Pakistan's development of nuclear weapons more harshly than it did India's. Both states after all broke the foundational understanding captured under the US "Atoms for Peace" program and related efforts by other supplier states like Canada that nuclear energy knowledge and technology would be shared but ought not to be used for nuclear weapons production. One response to this criticism rests on Pakistan's history with horizontal proliferation—both on the receiving and on the giving ends—namely assistance received from the United States and France and then importantly from China, and sales by A.Q. Khan's proliferation network. Discovering the exact details of how each country's program came about, what science and technologies were domestic versus imported or stolen, and US and other third-party responses to development is the work of future historians with better data access, but horizontal proliferation is a defining characteristic of Pakistan's nuclear history.¹⁵

In terms of military tactics, Pakistan's program is aimed at India. However, Pakistan is part of a markedly asymmetric nuclear triad in Asia. Pakistan is most concerned with deterring India, which seeks to deter China, which in turn seeks to deter the United States and Russia. In 1998, Pakistan's May tests were in direct response to India's overt tests that same month, but India was responding in part to perceived threats posed by China. This chain reaction is relevant to early nuclear history in Asia, but it has come to bear even more heavily on post-1998 developments in proliferation, competition, and nuclear strategy.¹⁶

Effects on Security Policy and Regional Stability

What effect did Pakistan's declared nuclear weapons status have on its security policy? A body of international relations scholarship suggests that states may be emboldened by nuclear weapons acquisitions to pursue more expansive or aggressive policies. This may be especially true in the case of Pakistan because it is both weaker in aggregate conventional military power than India, and because it has revisionist territorial claims against India.¹⁷ In that sense, Pakistan is the type of state with the most to gain from nuclear weapons, because they buttress its security against a stronger rival and offer a tool for long-thwarted policy goals.¹⁸ In this way, nuclear weapons acquisitions may not only fail to prevent conflict through deterrence, but may actually hasten conflict through emboldenment.

Just one year after the nuclear tests, Pakistan appeared to test this proposition in the Kargil conflict.¹⁹ Pakistani forces (specifically members of the Northern Light Infantry), dressed in civilian attire, surreptitiously established lodgments across several peaks in and around the Kargil sector of the Line of Control. Beyond its long-standing goals of revising the territorial status quo and "unfreezing" the Kashmir dispute, Pakistan was probably keen to avenge India's 1984 seizure of the Siachen glacier, and threaten a key Indian supply route. Thus, although the underlying motivations for seizing control of Kargil long predated the nuclear tests, the Pakistan Army probably gained some confidence from its newfound status as a declared nuclear weapons state. It likely judged that its new demonstrated deterrent would reduce the chances of an escalatory Indian response and increase the chances of international diplomatic intervention to spotlight the Kashmir dispute. It remains unclear if this confidence was decisive in triggering the Kargil campaign; the Pakistan Army arguably could have attempted the *fait accompli* even in absence of its declared nuclear capability.

Beyond the Kargil conflict, Pakistan also escalated its unconventional campaign against India. It used irregular forces to press its territorial claims in Kashmir since literally the first Kashmir conflict in 1947. Throughout the 1990s, it had sustained an insurgency in the Indian-controlled state of Jammu and Kashmir, where Indian security forces were struggling to suppress a separatist movement. After the nuclear tests and Kargil war, Pakistan widened and escalated that campaign to support terrorist attacks beyond Kashmir, in major Indian cities. An attack on the Indian Parliament in December 2001 triggered a massive Indian mobilization—significantly larger than during the Kargil war—which lasted most of a year and twice came close to open war. India accused Pakistan of sponsoring a string of other attacks across Indian cities—and produced clear evidence that the perpetrators of the "26/11" complex attack in Mumbai in 2008 were being directed, during the attack itself, from Pakistan.

Throughout this campaign, Pakistan used its nuclear weapons and posture to deter India from responding. It has issued preemptive threats of nuclear strike during crises, even in the 1980s, when its nuclear capability was recessed and ambiguous. These threats were made credible by its nuclear posture after the 1998 tests, designed to quickly escalate to nuclear use in case of an Indian attack. This posture was manifested in both declaratory policy—with

frequent nuclear threats—and capability development—with a growing suite of dispersed and short-range delivery systems, as we discuss below.²⁰

These deterrent threats apparently worked. Even in the Kargil war, when India had to respond to Pakistan's military encroachments, it placed strict limits on the scale and scope of force its military could use—for example, restricting its aircraft to flying only on its own side of the LoC. In the 2001–02 mobilization, India held back from launching major conventional operations because they carried the risk of uncontrollable escalation to Pakistan's nuclear red lines. After the 2008 Mumbai attacks, India had no good retaliatory options short of major conventional operations, which it again ruled out as unduly risky.²¹ By effectively deterring India, therefore, Pakistan's post-1998 declared nuclear capability served its security strategy by reducing the potential costs of Pakistan's unconventional campaign of sponsoring cross-border terrorism in India.

Nuclear weapons not only added an important dimension to Pakistan's security strategy, they undermined strategic stability in the region. The India-Pakistan dyad has become more unstable in at least three ways. First, Pakistan's posture of rapid escalation, for the sake of credibility, requires riskier command and control arrangements. During a crisis or wartime, its threat of rapid first use of nuclear weapons could involve dispersed deployment of weapons and possibly delegated authority to use the weapons. During a crisis, Pakistan likely keeps warheads and delivery systems in close proximity so they can be mated and deployed quickly. These steps may weaken peacetime safeguards against accidental or unauthorized use. The recurring crises and wars between India and Pakistan since 1947 pose concerning questions about how often the Pakistan military may invoke such heightened nuclear status decisions.²²

Second, Pakistan's nuclear posture enables it to be more aggressive in its sub-conventional attacks against India. Pakistan's posture threatens rapid escalation to the nuclear threshold—promising asymmetric escalation when compared to India's posture of massive but delayed retaliation. India designed its capability to be used only in response to a nuclear strike, ostensibly guaranteeing that it would not escalate to the nuclear threshold first in a crisis. With this credible guarantee in place, Pakistani leaders could be confident that their threat of asymmetric escalation to nuclear use would deter Indian conventional reprisal attacks, and accordingly grow increasingly emboldened and aggressive in their sub-conventional campaign against India, progressively raising the level of violence and risk in the region.²³

Third, this increased instability at sub-conventional and possibly conventional levels may then filter up to the nuclear level. Some scholars have argued that the introduction of nuclear weapons in the long-standing rivalry between India and Pakistan has helped to stabilize the historically war-prone dyad. In this “stability-instability paradox,” as it is known, declared nuclear powers like Pakistan may indeed be emboldened to pursue their revisionist aims more aggressively, but mutual deterrence ensures that low-level violence does not escalate. Both sides in a mutual-deterrence rivalry understand the catastrophic costs of potential nuclear war and accordingly act with greater caution, and may even seek to improve their long-term relationship while sub-conventional instability continues.²⁴

In contrast, other scholars have suggested that sub-conventional instability cannot be reliably contained. As one actor—in this case, Pakistan—grows more aggressive under its nuclear umbrella, the other actor—in this case, India—grows increasingly likely to respond with force. Even if both sides would prefer to avoid escalation to nuclear use, the cycle of incrementally escalating force may paint each side into a corner. For a multitude of reasons—including safeguarding territorial integrity, perceptions of international credibility, or pressure from domestic audiences—both sides may judge that backing down in a crisis is more politically

costly than continuing to escalate. In this sense, there are no reliable firebreaks between sub-conventional instability and strategic instability.²⁵

Does the stability–instability paradox apply in South Asia, or is the nuclear rivalry fundamentally unstable? The historical record provides evidence for both arguments. On one hand, India and Pakistan have endured several intense security crises—including an open conventional conflict in 1999 and general mobilization in 2001–02—which have not escalated to the nuclear level. Several other incidents of cross-border terrorist provocation—especially in 2008—did not even elicit any military response from India. Deterrence has worked, and strategic stability has survived, so far. On the other hand, political pressure has been growing in India to mount a military response to Pakistan-based terrorism. India did strike back at Pakistan with special forces in 2016, and an air strike in 2019—each time an escalation on its previous response. And following the 2019 air strike at Balakot, Pakistan responded with air incursions of its own against India, which briefly raised the prospects of rapidly escalating instability. This recent trend suggests the Indian government is taking increasingly escalatory steps to punish Pakistan and accept greater risks of further instability.

While South Asia has not yet suffered a nuclear exchange, the doctrines and capabilities on both sides are setting the conditions that make nuclear use more likely. India and Pakistan have engaged in an action–reaction cycle in which each side seeks the capacity to gain some military advantage, which spurs its adversary to counter with its own doctrinal or capability innovation. With each iteration of this cycle, the two sides have created more options for using and escalating military force quickly, before either the other side or the international community can respond.

This action–reaction cycle gathered momentum after the 2001–02 crisis.²⁶ The ponderously large Indian military took several weeks to mobilize—that is, to create a viable option to retaliate against Pakistan. In that time, Pakistan was able to make effective defensive preparations and the US led an intense diplomatic intervention to urge restraint and make an Indian military offensive politically untenable. The Indian military's overarching lesson learned from the crisis, then, was the need to be able to mobilize and strike Pakistan quickly, before Pakistan or the United States could thwart it. It thus set about developing a new doctrine for conventional operations, known as Cold Start. One key feature of Cold Start was the aim of compressing the timeframe required for deploying and using force.²⁷

Another key feature of Cold Start was setting more modest operational objectives—so that India could impose some punitive costs without triggering a Pakistani nuclear response. For years, some Indian strategic thinkers had harbored fantasies of slicing through Pakistani territory with deep penetrating offensives. This was the putative objective of the Indian Army's doctrine for mechanized operations. Pakistan lacks strategic depth, so invading Indian forces could seize control of key north–south lines of communication in Pakistan, or encircling major cities like Lahore, with relatively modest incursions. The prospect of Indian invaders in effect splitting Pakistani territory played directly into the Pakistani establishment's fears that India would again seek to dismember the Pakistani state as it had done in 1971. For Pakistan, this was precisely the type of Indian military threat that necessitated a nuclear deterrent.

Thus, at the height of the 2001–02 crisis, as India's three strike corps prepared for battle, Pakistan issued a blunt warning. The director of Pakistan's Strategic Plans Division, which controls its nuclear arsenal, publicly signaled Pakistan's nuclear red lines. He asserted that Pakistan would retaliate with nuclear weapons if India crossed any of four thresholds: Conquering a large part of Pakistani territory, destroying a large part of the Pakistani military, strangulating Pakistan economically, or provoking large-scale political destabilization or subversion inside Pakistan.²⁸ The specific scale of these red lines—for example, how much

territory was too much?—was left deliberately ambiguous, to increase the doubt and therefore deterrent effect in India. But the underlying message was clear: Pakistan was willing to use nuclear weapons first, when faced with conventional military or even unconventional or non-military threats from India.

Cold Start, accordingly, sought to bypass this nuclear threat. It proposed making shallow incursions—again, the specific scale remained unstated—so that Indian forces would not approach Pakistani red lines. But this of course left Cold Start mired in a strategic dilemma. If India's punitive response was deliberately calibrated to avoid triggering a Pakistani nuclear response—setting aside the difficulty of making that calibration accurately—that punitive response would by definition impose only tolerable, or relatively minor, costs on Pakistan. India was thus seeking to develop military options against Pakistan that *by design* would be strategically inconsequential. India's military response would be less about imposing sufficient costs on Pakistan to dissuade it from its sub-conventional campaign and more about catalyzing international pressure on Pakistan and satiating Indian domestic pressure to act.

For years, Cold Start was a declaratory doctrine that was constantly disputed, often disavowed, and shrouded in doubt.²⁹ The Indian military made negligible apparent headway in changing its force structure, organization, or dispositions to implement the doctrinal change. Thus, a series of cross-border terrorist provocations—most notably in Mumbai in 2008—went unanswered in the apparent absence of viable military options.

Nevertheless, Pakistan reacted to Cold Start with its own nuclear evolution. To deter the possibility of shallow Indian incursions, Pakistan began to expand its program with the development of tactical nuclear weapons.³⁰ The majority of Pakistan's nuclear arsenal is deliverable by surface-to-surface missiles; the remainder by air-launched cruise missiles and aircraft-dropped bombs. By 2013, it had introduced tactical Nasr missiles, with a low yield and a range of about 60 km. These short-range missiles are designed to interdict invading Indian forces, including those already on Pakistani territory.

In 2015, the Pakistan Army began referring to these tactical weapons as the centerpiece of its new “full spectrum deterrence” posture. Whereas its earlier minimum credible deterrent was designed to deter existential threats to the country, full spectrum deterrence was being developed to deter any military threats, including the less-than-existential threats posed by the erstwhile Cold Start doctrine. Pakistan's nuclear posture had evolved to be an integral part of Pakistan's military strategy—a tool of warfighting, not only deterrence. Tactical nuclear weapons lowered the threshold for nuclear use and multiplied demands for rigorous command and control and security of the weapons.

Other elements of full-spectrum deterrence are designed to offer Pakistan more delivery options from the ground and sea. As India began fielding long-range and more-survivable missiles—mostly to deter China—Pakistan followed suit. Academic and policy assessments note the road-mobile Shaheen-3 ballistic missile, whose 2,750 km range could target all of the Indian mainland—and could even range Israel—and the Ababeel, with multiple warheads designed to overcome ballistic missile defense systems. Galvanized by India's nascent triad, Pakistan is also developing naval nuclear capabilities. For example, it is developing a sea-based delivery option with the Babur-3 cruise missile, likely designed to be launched from submarines for a credible second-strike capability. Although these missiles are still being tested and not yet in service, strategic delivery systems still account for the bulk of Pakistan's nuclear arsenal.³¹

Meanwhile, India began reacting to Pakistan's full-spectrum deterrence—especially its tactical nuclear weapons—with new conventional options. If major Cold Start-type operations would be targeted with nuclear attack, India sought to further reduce the scale of

its retaliatory strike. In 2016, following a Pakistan-based terrorist strike at Uri, Indian special forces launched a raid against terrorist camps just over the Line of Control in Kashmir, and in 2019, Indian fighter aircraft went much further, targeting—with dubious effects—what India claimed was a terrorist facility at Balakot, in Pakistan proper, rather than disputed Kashmir.

In no way did these Indian reprisals approach Pakistan's nuclear red lines—they did not, as some Indian commentators claimed, call Pakistan's nuclear bluff. They did reveal that some military action could remain below the threshold of nuclear retaliation, but India had again revised downward its military ambitions, from deep penetrating attacks prescribed by mechanized force doctrine, to shallow incursions prescribed by Cold Start, to single ground and air raids. India had found an option for military action—largely as a signal to Pakistan and domestic Indian audiences—but Pakistan's nuclear deterrent forced that action to be strategically negligible.

Despite the shrinking scale of Indian military ambitions, the Balakot crisis also offered a glimpse into how that relatively modest military action could still generate crisis instability. In part this was likely intentional—New Delhi probably judged that its threshold-busting air strike would show India to be unpredictable and highly resolved, deliberately raising the risk of conflict to compel Pakistan to back down. In part, however, neither side could control escalation reliably—the crisis was mitigated after Pakistan made the conciliatory gesture of returning a captured Indian pilot, but could have spun out of control had the aerial skirmish claimed more lives or accidentally caused significant damage. New Delhi probably judged the Balakot crisis to validate its claim that it can find space for conventional operations, and that offramps exist even after a crisis escalates. But a similar crisis in the future, featuring a Pakistan primed to show its redoubled resolve, and subject to the vagaries of operational chance, would have no reliable firebreaks before approaching Pakistan's threshold for nuclear use.³²

Other potential sources of crisis instability are on the horizon. Developments in India may prompt Pakistan to react again with yet-unknown changes to its posture. On the conventional level, the Indian Army has finally begun to reorganize into Integrated Battle Groups—in other words, after years of apparent inaction, the Army is taking tangible steps to actualize Cold Start. On the nuclear level, meanwhile, some scholars have suggested that India is at least considering and creating the option for a counterforce posture. Such a posture would seek to eliminate Pakistan's nuclear capability preemptively, to deny Pakistan its deterrent and leave it exposed to India's conventional military.³³ Both of these developments would again challenge Pakistan's existing nuclear capability and concepts, and may prompt the next round of Pakistan's nuclear evolution, with unknown consequences for regional stability.

Implications for Future Regional Security and Global Nuclear Dynamics

Discerning strategic turning points is difficult except in hindsight, but the 2019 Balakot crisis may prove to be a key milestone in ushering in a “third nuclear age” in South Asia, marked by renewed nuclear competition among great powers, new nuclear-armed states, and a greater willingness to escalate and take risks.³⁴ Consistent with the realist account in this chapter, Pakistan's nuclear program will continue to be shaped by the action–reaction cycle of evolution with India, mediated through the prisms of its military-dominated establishment. In the coming years, it will also face four new sets of issues, related to this evolving nuclear age, which will have unpredictable consequences.

First, near-term prospects for crisis prevention and crisis management mechanisms in South Asia are weak. The United States has long played the key third-party role in encouraging nuclear risk reduction, crisis management, and strategic stability in South Asia. Considering

growth of the US-India strategic partnership, cooling of ties between the United States and Pakistan, and strengthening of the Sino-Pakistani relations, the US role in diffusing a future India-Pakistan crisis may be necessarily limited. Compounding these shifts in bilateral relationships is the challenge of simultaneous crisis management. During the 2019 Balakot crisis, US policymaker resources were divided between South Asia, North Korea, and Iran. The United States and other potential third-party managers may face these conditions again in a future crisis and meet with less luck in terms of the readily available offramps from conflict escalation present in 2019.

Second, “strategic chain” dynamics remain active and are likely to remain so for the foreseeable future. Chinese, Russian, and US efforts to modernize and/or expand nuclear forces are having cascading effects on India and therefore Pakistan, resulting in continued development of Pakistan’s nuclear arsenal and posture. An unfolding and understudied aspect of these developments in South Asia is the impact of military technologies that are “emerging” for the region and the capabilities they facilitate. For Pakistan’s defense calculus, the salient newer technologies include submarines, armed and unarmed drones, ballistic, cruise, and hypersonic missiles, ballistic missile defense, satellites for intelligence surveillance and reconnaissance, and anti-satellite capabilities. These newly developed and deployed technologies and capabilities will impact cross domain deterrence, crisis onset scenarios, and escalation dynamics in unpredictable ways.

Consider, for example, the challenge of defining proportional responses amidst increasing asymmetry in the China-India-Pakistan triad. How will asymmetry between China and India, and between India and Pakistan, compound blurry red lines, signaling, and escalation control strategies, especially given the other nuclear-armed states operating forces in the Indian Ocean Region (IOR)? For example, what happens to Pakistan’s operational and strategic calculi if India were to deploy a modified Heron medium-altitude long-endurance, unmanned aerial vehicle on the line of control during a crisis? Is the use of a drone modified to carry conventional munitions instead of typical cross-border firing and mortar shells inherently more destabilizing? Similarly, could we envision a future crisis where one state destroys another’s satellite for signaling reasons? What would a proportional response look like to such an event if the victim of the attack lacks anti-satellite weapons? The uncertainty inherent in these newer technologies being asymmetrically deployed in Asia will prove destabilizing in future nuclear crises yielding increasingly gray cross-domain conventional and dual-use system escalation that will be harder to prevent and control.

Third, as a middle power focused almost entirely on India, Pakistan is sometimes overlooked as a nuclear-armed state in assessments of large power defense planning. Yet, Pakistan will be a key player—whether as a passive or active third party or as a direct actor—in any IOR conflict involving China, for example. This has key implications for not just Indian but also US national security priorities in Asia. India’s ability to partner with the United States in a hypothetical future IOR conflict will be affected by the status of Pakistani nuclear capabilities and its stance on the conflict. Pakistan would have the ability to take advantage of such a conflict with minimal effort and incurring limited risks. Even if Pakistan were to remain a declared neutral party, its presence would still likely weaken India’s utility as a US partner to some extent given its two-front war concerns. Because of this dynamic nuclear multipolarity, middle powers like Pakistan will become increasingly important for future nuclear crises between large powers.

Fourth, South Asia’s regional security environment faces renewed sources of instability with dangerous implications for counterterrorism and nuclear security. South Asia’s nuclear-armed militaries are expanding their warfighting capabilities in an environment that became much

more unstable with the withdrawal of US and coalition forces from Afghanistan in 2021. The region is home to porous underregulated borders, entrenched illicit economies, two nuclear weapons programs, and at least one nascent nuclear energy program (in Bangladesh). Violent nonstate actor groups with various levels of sophistication have a long history of operating across South Asia. These include groups with international agendas and historically expressed interests in chemical, biological, radiological, and nuclear weapons. The regional challenges of counterterrorism and securing sensitive nuclear materials, facilities, and equipment are likely to become more entwined. With the right policy will, this development could helpfully prompt regional and international cooperation on efforts such as border security measures to interdict radiological and nuclear materials and technologies. New research and policy attention is required to assess how nonstate actors may exacerbate regional security in this nuclearized environment.

Notes

- 1 See Feroz Khan, *Eating Grass: The Making of the Pakistani Bomb* (Stanford University Press, 2012); Rabia Akhtar, *The Blind Eye: U.S. Non-Proliferation Policy towards Pakistan from Ford to Clinton* (University of Lahore Press, 2018); Hassan Abbas, *Pakistan's Nuclear Bomb: A Story of Defiance, Deterrence, and Deviance* (Oxford University Press, 2018).
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- 3 See, for example, Bhutto's writing—couched in Islamicate political rhetoric—on nuclear weapons and small state politics in the face of post-Cold War imperialism, arguing against costly alignment with the United States. Zulfikar Ali Bhutto, *The Myth of Independence* (London and Lahore: Oxford University Press, 1969).
- 4 Khan, *Eating Grass*, 68–94.
- 5 *Ibid*; Christopher Clary, "Pakistan: The Nuclear Consensus," in *Nuclear Debates in Asia: The Role of Geopolitics and Domestic Processes*, eds. Mike M. Mochizuki and Deepa M. Ollapally (Lanham: Rowman and Littlefield, 2016), 221–243.
- 6 Gideon Rose, "Neoclassical Realism and Theories of Foreign Policy," *World Politics* 51, no. 1 (October 1998): 144–172.
- 7 For U.S. government accounts of this tension, see Burr's primary source summary and analysis: William Burr, "The Carter Administration's 'Damnable Dilemma': How to Respond to Pakistan's Secret Nuclear Weapons Program, 1978–1979," *Journal of Cold War Studies* 23, no. 1 (2021): 4–54.
- 8 See Akhtar, *The Blind Eye*; Narang, *Nuclear Strategy in the Modern Era*; and Vipin Narang, "Strategies of Nuclear Proliferation: How States Pursue the Bomb," *International Security* 41, no. 3 (Winter 2016/17): 110–150.
- 9 Narang, *Nuclear Strategy in the Modern Era*, 55–93.
- 10 Khan, *Eating Grass*, 95–123.
- 11 C. Christine Fair, *Fighting to the End: The Pakistan Army's Way of War* (New Delhi: Oxford University Press, 2014), 221.
- 12 Michael Krepon and Liv Dowling, "Crisis Intensity and Nuclear Signaling in South Asia," in *Investigating Crises: South Asia's Lessons, Evolving Dynamics, and Trajectories*, eds. Sameer Lalwani and Hannah Haegeland (Washington, DC: Stimson Center, 2018), 195–197; Narang, *Nuclear Strategy in the Modern Era*, 57–65; Matthew Fuhrmann and Benjamin Tkach, "Almost Nuclear: Introducing the Nuclear Latency Dataset," *Conflict Management and Peace Science* 32, no. 4 (2015): 443–461; Matthew Fuhrmann, "The Logic of Latent Nuclear Deterrence," Working Paper (September 8, 2017), SSRN: <https://ssrn.com/abstract=3052231>.
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- 14 Abbas, *Pakistan's Nuclear Bomb*.
- 15 Akhtar, *Blind Eye*; Gordon Corera, *Shopping for Bombs: Nuclear Proliferation, Global Insecurity, and the Rise and Fall of the A.Q. Khan Network* (Oxford: Oxford University Press, 2006).

- 16 Robert Einhorn and Waheguru Pal Singh Sidhu, “The Strategic Chain: Linking Pakistan, India, China, and the United States,” report Brookings Institution, 2017.
- 17 While the balance of aggregate military power is lopsided in India’s favor, the balance of usable power is much closer—see Arzan Tarapore, “Almost Parity: Understanding the India-Pakistan Conventional Military Balance,” in *Routledge Handbook on South Asian Foreign Policy*, ed. Aparna Pande (London: Routledge, 2021).
- 18 S. Paul Kapur, *Dangerous Deterrent: Nuclear Weapons Proliferation and Conflict in South Asia* (Stanford, Calif.: Stanford University Press, 2007). See also Sumit Ganguly and S. Paul Kapur, *India, Pakistan, and the Bomb: Debating Nuclear Security in South Asia* (New York: Columbia University Press, 2010).
- 19 For background, see Peter R. Lavoy, ed., *Asymmetric Warfare in South Asia: The Causes and Consequences of the Kargil Conflict* (Cambridge: Cambridge University Press, 2009).
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