

## Pakistan's Tactical Nuclear Nightmare: Déjà Vu?

In October last year, the world marked the fiftieth anniversary of the 1962 Cuban Missile Crisis. But for policymakers in South Asia, the commemoration was less a cautionary tale than an occasion for self-satisfaction. When India and Pakistan conducted nuclear weapons tests in 1998, they received near-universal condemnation, even from established allies. They were warned that—as poor countries with weak institutions and small, vulnerable arsenals—dangerous instability would plague their nuclear relationship.<sup>1</sup> Nascent nuclear powers were simply less reliable stewards than their Cold War counterparts.

Yet over a decade on, and multiple crises later—the 1999 Kargil conflict, a prolonged 2001-02 military standoff, and the 2008 Mumbai terrorist attacks—neither India nor Pakistan have experienced anything as perilous as the Cuban scare. To be sure, the picture is mixed. During the Kargil conflict, for instance, Pakistan allegedly readied its nuclear weapons without the knowledge of the Prime Minister and, according to Pakistan officials themselves, asked the then-ruling Taliban whether those weapons might be moved into Afghanistan for safekeeping. (The Taliban said yes).<sup>2</sup> But even at the height of their crises, neither state has attempted, as the United States did in 1962, anything as dangerous as depth-charging nuclear submarines or scrambling aircraft armed with nuclear air-to-air weapons toward hostile airspace.<sup>3</sup> Indeed, the dawn of Asia's nuclear age, what Paul Bracken calls “the first bounce of the nuclear ball,” has been calmer than that of the last century, and calmer than the nuclear pessimists had anticipated.<sup>4</sup>

Notwithstanding this period of relative calm, there may be change below the surface. In April 2012, India's test of the intermediate range *Agni-V* ballistic

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**Notwithstanding this relative calm, Pakistan's nuclear trajectory is undergoing an important shift.**

missile marked the maturation of the country's strategic forces.<sup>5</sup> For the first time, Beijing, Shanghai, and other northern and eastern Chinese targets came into India's nuclear reach, and the launch generated a number of concerns.<sup>6</sup> Pakistan's nuclear trajectory is, however, undergoing an even more important shift. Its nuclear stockpile is growing rapidly. More importantly, the development of tactical nuclear weapons, which have become increasingly central to

Pakistani nuclear thinking in the past three years, significantly and enduringly raises the risks of nuclear warfighting and accidents in periods of crisis, without producing the military benefits that have been claimed.

### **Nuclear Nightmares**

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First, Islamabad's nuclear numbers are increasing. Pakistan possesses what is understood to be the world's fastest-growing nuclear weapons program, anticipated on present trends to outnumber the British stockpile in under a decade, and possibly the French shortly thereafter.<sup>7</sup> The growth of its plutonium-production infrastructure underpins this expansion, by some estimates enabling the production of up to thirty warheads per year.<sup>8</sup> Pakistan, with one eye on the controversial U.S.–India nuclear deal that freed up India's domestic stocks of uranium for weapons production, has blocked talks at the UN Conference on Disarmament on the Fissile Material Cut-off Treaty (FMCT), an agreement which would ban the further production of fissile material for nuclear weapons.<sup>9</sup>

Thus far, Western policymakers have viewed this expansion largely as a non-proliferation issue, not a security one. But over the medium term, that could change. Since 2011, the relationship between the United States and Pakistan has grown increasingly rancorous—the two sides divide on the issue of Pakistan's support for jihadists and insurgents in South Asia, as well as the U.S. campaign of drone strikes in northwestern Pakistan. As American logistical and intelligence dependence on Pakistan decreases in line with the drawdown of forces from Afghanistan in 2014, that relationship is likely to deteriorate further.

Bruno Tertrais has gone as far as to suggest that if this estrangement worsens, the United States and its allies may come to see Pakistan's longer-range missiles as threats to their own military bases and personnel in the region.<sup>10</sup> These fears interact with present anxieties over the safety and security of Pakistan's nuclear sites, particularly during periods of alert when weapons might be moved under light protection (a risk discussed further below).

## Tactical Tremors

More than numbers, however, the greater concern is that Pakistan is developing a new generation of short-range, nuclear-capable ballistic missiles. For example, it first tested the 60-km range *Hatf IX*, or *Nasr* missile, in April 2011, and has done so numerous times since. Pakistan's military acknowledges that the missile had been "developed to add deterrence . . . at shorter range," with "shoot and scoot attributes."<sup>11</sup> The rapid expansion of Pakistan's plutonium production is also important in this regard. Plutonium undergoes fission more readily than uranium, which means it can assist in making warheads with better yield-to-weight ratios.<sup>12</sup> That enables warheads to be manufactured that can fit onto smaller missiles. Creating new roles for nuclear missiles also requires more missiles and therefore more fissile material for the warheads. Plutonium is better able to meet that demand, which might nevertheless outstrip supply.

Whether missiles like the *Hatf IX* should count as tactical nuclear weapons (TNWs) is unclear.<sup>13</sup> TNWs are designed for actual military use on a battlefield with conventional forces, while strategic nuclear weapons are used more as part of a strategic plan, such as striking population centers. Some Pakistanis have argued that there is no meaningful distinction between tactical and strategic use in a country of Pakistan's small size.<sup>14</sup> Feroz Khan, a former official of Pakistan's large and powerful nuclear secretariat, the Strategic Plans Division (SPD), insists in his recent history of the Pakistani bomb that the country "has no plans to move toward battlefield weapons." But he admits that "the introduction of *Nasr* is . . . meant to bolster conventional deterrence by creating strong barriers that will deter assaulting forces at the tactical level," and that the missile "is slated as [a] battlefield weapon system."<sup>15</sup>

One could interpret Pakistan's actions as bluffs to confuse and deter India. Alternatively, the purpose of designing lower-yield weapons might principally be to improve Pakistan's ability to miniaturize nuclear warheads for compact sea-launched missiles. But the signals being sent by Pakistani scientists and generals suggest that there is a new and significant focus on TNWs, and that these will form an important pillar of Pakistan's nuclear doctrine.

For its part, India has also tested short-range missiles, such as the 60-km range *Prahaar*. Opinion is mixed on whether these missiles are nuclear-capable or not. Indian scientists have only said obliquely that *Prahaar* can carry "different types of warheads."<sup>16</sup> Regardless of *Prahaar*'s nuclear status, India is unlikely to prove comparably interested in TNWs. Its own civilian-dominated civil-military

**Pakistan is developing a new generation of short-range, nuclear-capable ballistic missiles.**

relations mean that politicians and bureaucrats are wary of entrusting the armed forces with such weapons in an operational context. In recent years, India has expanded its Strategic Forces Command (SFC) and established a nuclear cell within the Prime Minister's Office led by a retired General.<sup>17</sup> These are both steps that would have been unthinkable in the 1990s. But India's attitude to nuclear command and control has changed only with great torpor. The deployment of TNWs would be out of character, unless conditions change.<sup>18</sup>

Writing in 2012, Pakistan's former Ambassador to the United States, Maleeha Lodhi, succinctly explained the doctrinal basis of Pakistan's interest in TNWs: "to counterbalance India's move to bring conventional military offensives to a tactical level."<sup>19</sup> India has given serious thought to such offensives—limited war under the nuclear threshold—for over a decade, beginning after the Kargil conflict of 1999 and maturing after 2004 into the Indian Army's so-called "Cold Start" doctrine.<sup>20</sup> Cold Start calls for the rapid mobilization of smaller and more flexible Indian conventional units against Pakistan in the event of conflict. It is supposed to provide India with retaliatory measures against Pakistan without escalating to nuclear war. Colonel David O. Smith, who served twice as the U.S. Army Attaché to Pakistan, notes that Lieutenant-General Khalid Kidwai, director of the SPD since its inception and the single most important figure in Pakistan's post-1998 nuclear trajectory, has repeatedly said in private that the purpose of TNWs is to "pour cold water on Cold Start."<sup>21</sup>

Pakistan's nuclear advocates make the case that this approach is no different than NATO's Cold War nuclear posture towards the Soviet Union, the inevitable result of a conventionally weaker country trying to negate its more powerful adversary's conventional advantage. Michael Quinlan, the late British civil servant and nuclear strategist, explained that "NATO thinking was always clear that a major conflict was not to be conducted in sealed compartments, whether of territory or of force category, and still less in sealed compartments imposed by an aggressor to suit his strengths and preferences . . . the range of options available must therefore be an unmistakable continuum without huge gaps."<sup>22</sup>

*Hatf IX*, like NATO's enormous range of tactical nuclear weapons from nuclear artillery to nuclear mines, bridges that gap. Christopher Clary argues that Pakistani decision-makers "have internalized the U.S. Cold War literature on nuclear weapons far more than Indian strategic elites."<sup>23</sup> Pakistani writings on nuclear affairs are replete with this historical analogy—it provides a key reference point for a still-evolving doctrine. Feroz Khan, for instance, observes that "the Pakistani situation is akin to NATO's position in the Cold War."<sup>24</sup>

Putting aside the well-understood problems of escalation control that bedeviled NATO and would similarly afflict Pakistan, this analogy is either mistaken or misleading in key aspects. It underestimates the risks of what Naeem Salik, a

former director of arms control at the SPD, has admitted is “a shift in doctrinal thinking” and a step towards “actual nuclear war fighting.”<sup>25</sup>

### Warfighting Risks

There are several problems with Pakistan likening its pursuit of tactical nuclear weapons to the Cold War logic. The first is that NATO's assigned roles for TNWs were never quite as simple as is sometimes thought. From the 1950s onwards, Washington understood that its nuclear response would have to be tailored to the scope of Soviet action and, in 1967, the idea of “flexible response”—the notion that options short of massive retaliation had to be developed if retaliatory threats were to be credible—became part of NATO's nuclear doctrine.<sup>26</sup> But this doctrine did not envision physically stopping a Soviet invasion in its tracks.

By 1957, the U.S. Army had concluded that TNWs would neither necessarily help the defending side, nor that with fewer troops.<sup>27</sup> By the 1960s, it was acknowledged that “Western commanders, faced with imminent defeat, would fire their tactical arms in desperation at advancing Soviet units, commit the whole matter to God, and retreat with as much order and bravery as they could muster.”<sup>28</sup> European studies over the next twenty years reiterated that finding; NATO could not avert defeat by unleashing TNWs.<sup>29</sup> Despite these findings, one Pakistani participant at a 2011 Track II meeting visualized “the use of *Nasr* shells, carrying atomic explosives, to annihilate advancing armored thrusts in the southern desert sector, or blunt advances towards the short distance of the Pakistani communication centers, such as Lahore.”<sup>30</sup>

Whereas the United States possessed 20,000 TNWs as early as 1967, Pakistan currently possesses around 100 weapons, which even the most speculative accounts consider to be mostly non-tactical.<sup>31</sup> A recent study by A.H. Nayyar and Zia Mian argued that Pakistan would struggle to destroy any Indian armored offensive with such numbers if Indian forces were prepared and could disperse.<sup>32</sup> Another calculation by Ashley Tellis suggests that Pakistan would need as many as 436 nuclear weapons of 15-kiloton yield to destroy at least half of a single Indian armored division.<sup>33</sup> Since the size of the *Nasr* missile indicates it could only accommodate warheads of much smaller yield than this, these requirements grow more onerous still.<sup>34</sup> In this reading, Pakistan's arsenal would have to be absurdly large to engage the full range of battlefield and strategic targets.

Ironically, Indian defense planners are more circumspect. On one hand, they remain skeptical that Pakistan possesses land-based TNWs at all.<sup>35</sup> But on the other hand, they assume that two ordinary, non-tactical nuclear weapons dropped from Pakistani F-16 aircraft could effectively halt an armored division—the tanks could get through a nuclear battlefield but their supply lines could not, and Indian forces could not disperse quickly enough anyway. Indian armored divisions are assumed to move at a speed of approximately 20 kilometers per

hour in the relevant Pakistani terrain. In the several minutes it would take to target and drop a bomb, Indian tanks could not disperse more than a few kilometers. That would be within the range of, say, a 15-kiloton device. Others, by contrast, have argued that Pakistan's ISR capabilities are not sufficient to target moving armored columns.<sup>36</sup> Just eight weapons, comfortably within Pakistan's capacity to deliver, could therefore block a four-division advance. Ironically, this would suggest that Pakistan, in the eyes of Indian decisionmakers, has had something like a tactical nuclear capability for around two decades—and that the additional utility of short-range nuclear missiles is even less than argued here.

### **Missed Signals**

The second problem for Pakistan, as for NATO, is the human and physical cost to itself of using tactical nuclear weapons. NATO quickly came to understand that even limited nuclear use would devastate the countries supposedly being defended. One famous exercise in 1955, Sage Brush, found that human life in the battlefield area had “ceased to exist” and even the defending units obliterated. Another, Carte Blanche, found that 1.7 million West Germans would die and 3.5 million be wounded.<sup>37</sup> This is why, by the early 1970s, NATO gave up on using ground bursts on NATO territory and, by the early 1980s, abandoned Atomic Demolition Munitions and restricted yields to ten kilotons.<sup>38</sup>

As the darkly comic saying went: “the shorter the [nuclear] range, the deader the Germans.”<sup>39</sup> Substitute “Punjabis” for “Germans,” and Pakistan's quandary is even clearer. Pakistani officials retort that targeted areas would be unpopulated desert, but their cities and lines of communication are closer to the border and their targeting accuracy lower than the NATO equivalent.<sup>40</sup>

NATO's primary role for TNWs was to send political signals to the adversary—namely, to signal resolve with actions short of a strategic nuclear exchange—not to win on the battlefield.<sup>41</sup> This distinction tends to be lost in discussions of Pakistan. NATO's Nuclear Planning Group (NPG) devoted enormous thought to what types of nuclear use would send the most effective signals, how Allied intentions would be communicated to the adversary, and which delivery systems could be used without frightening Moscow into thinking a full-blown nuclear attack was underway.<sup>42</sup> For all we know, Pakistani officials may well have devoted comparable attention to these questions in private, and see value in opacity, but the writings of retired officials and non-governmental strategists do not suggest a vibrant debate.<sup>43</sup>

It is worth noting that this process of signaling may be even more demanding, and the risk of inadvertent escalation higher, in the contemporary Asian context than in Cold War Europe. The Soviet Union's military commander assumed, correctly, that “many in NATO doubted that their political leaders would agree

quickly to use nuclear weapons.”<sup>44</sup> But NATO was a multinational alliance with a variety of different perspectives on where the nuclear threshold ought to lie. Pakistani decision-making, whatever its other pathologies (and there are plenty) is likely to be simpler and more responsive, naturally affording fewer opportunities for careful deliberation and less time for de-escalation.

### **Command and Control**

Beyond the utility and potential devastation of intentional tactical nuclear use, there is the additional, well-recognized problem of command and control. TNWs were and are seen as especially credible precisely because their shorter range requires that they be deployed closer to or deeper in the battlefield, making them more vulnerable in the course of a war, and therefore more likely to be used. As long as field commanders are thought to have the authority to use their weapons, this “use or lose” dilemma should serve to deter adversaries. NATO accordingly pre-delegated launch authority for at least some of its nuclear weapons in the late 1950s, though never down to the lowest level.<sup>45</sup>

Although little is known about Pakistan's command and control arrangements, some officials have indicated that Pakistan faces these same pressures. Khan, the SPD official quoted earlier, has argued that “partial pre-delegation, especially for the weaker side, would be an operational necessity because dispersed nuclear forces as well as central command authority (National Command Authority) are vulnerable. . . Should a trade-off be required, battle-effectiveness of the nuclear force will trump centralized control.”<sup>46</sup> Similarly, former SPD arms control director Salik warns that Pakistani TNWs might “force a rethink of existing centralized. . . controls over nuclear weapons and may lead to a pre-delegation of command and control with its own attendant risks.”<sup>47</sup> The SPD is admired, including among Indian observers, for its professionalism, but such pre-delegation inevitably dilutes centralized command. This is especially dangerous during any wartime disruption of communications which may leave field commanders isolated and fearful that they may be the last line of defense. Pakistan's willingness to move its nuclear weapons into Afghanistan in 1999, despite the on-going war there, is indicative of the risks it may be willing to run to ensure survivability.

This problem has greater resonance in Pakistan. Eisenhower's claimed pre-delegation of nuclear weapons rested on his “confidence in the professionalism of his military leaders” and, as such, confidence that they would make every effort to communicate with political leaders in Washington.<sup>48</sup> To be sure, U.S. civil-military relations were not without problems. General Douglas MacArthur had clashed less than a decade previously with his political superiors over the issue of nuclear use in the Korean War, and General Curtis LeMay in 1957 had promised to pre-empt any Russian massing of aircraft regardless of official

American policy.<sup>49</sup> But NATO military officers were ordinarily under the unquestioned command of elected civilian leaders.

In Pakistan, the military retains broad control of many aspects of social, economic, and political life. It has rigged elections, subverted elected governments, murdered journalists, and started wars without recourse to civilians. Although Pakistan's chain of nuclear command includes the Prime Minister, few analysts seriously believe that any civilians would make the final call.<sup>50</sup>

Pakistan's lopsided civil-military relations do not, of course, *automatically* make pre-delegation more dangerous. After all, Pakistan's nuclear-bearing field commanders may be just as subordinate to their own top-level decisionmakers as NATO field commanders are to theirs. And many would recoil at the prospect of former Prime Minister Raja Pervaiz Ashraf, widely derided as corrupt and feckless, or incumbent Nawaz Sharif in charge of the nuclear button. But if Scott Sagan is correct in suggesting that "military officers display strong biases in favor of offensive doctrines and decisive operations," there are grounds for concern.<sup>51</sup>

Pre-delegation also presents issues of nuclear safety. In 1975, a Pentagon report recognized that "terrorism poses a potential threat to our weapon stockpiles and is driving most of the new security upgrade efforts." After all, rebelling Greek military units had surrounded U.S. nuclear weapons on Greek soil in 1967, and German terrorists targeted European bases hosting TNWs throughout the 1970s and 1980s.<sup>52</sup> One assessment suggests that the United States allocated up to a tenth of its personnel in Europe to protect and handle TNWs.<sup>53</sup>

In Pakistan's case, these threats are far more severe. Chris Clary observes that "of all of the nuclear weapons-possessing states, Pakistan has the most permissive environment for violent, non-state actors."<sup>54</sup> During periods of crisis, when TNWs may be on alert and therefore oriented toward readiness rather than ensconced deep within military bases, the weapons may become especially susceptible to insider threats, perhaps from disaffected or radicalized officers.<sup>55</sup> The numerical requirements of TNWs deployed in a battlefield role, arrayed so as to cope with multiple potential Indian attack vectors, mean that many more points of such vulnerability crop up than if Pakistan's arsenal were based around long-range missiles alone.

### **It's Only Getting Worse**

The analogy between Pakistan and NATO suffers from a further deficiency when we adopt a dynamic rather than static perspective. NATO's reliance on TNWs was short-lived, and the attendant risks were correspondingly limited. The first U.S. TNWs (nuclear artillery pieces) arrived in Europe in 1954, and numbers increased rapidly for the next quarter-century. But after 1979, NATO began withdrawing large numbers, and continued to do so through the 1980s. Much of that drawdown took place even as the Soviet Union was unveiling a new

offensive military doctrine built around rapid armored maneuver—ironically, elements of which echo in India's evolving limited war doctrine today.<sup>56</sup> NATO felt able to do this because its conventional military capabilities were fast improving, thanks in part to its increasing technological lead over the USSR.

Pakistan, by contrast, is falling behind India in terms of military spending and technology. The gap between Indian and Pakistani spending on defense is at its highest levels ever, and has been rising—at an increasing rate—nearly continuously for twenty years.<sup>57</sup> Between 2002 and 2011, Indian defense spending grew at the eighth-fastest rate in the world, behind only the five permanent members of the UN Security Council, Saudi Arabia, and Japan.<sup>58</sup>

India is also investing in a number of capabilities that would assist speed- and maneuver-based limited ground offensives of the sort that TNWs are supposed to deter and defend against. In recent years, these investments have been so slow to develop that the Indian Army has actually reverted to older, larger, and slower-moving formations.<sup>59</sup> But many Pakistani accounts take it as axiomatic that the conventional military threat from India is growing.<sup>60</sup> This indicates that Pakistan will continue to increase the emphasis it places on the development of TNWs and their role in Pakistani nuclear posture. That, in turn, will entrench the attendant risks that have been laid out here.

In combination with its growing power, India's much-noted interest in improving its limited war capability is indeed likely to have played a role in spurring on Pakistan's own interest in TNWs. But that capability should not be confused with the existentially threatening Soviet offensives that would have driven through Western Europe to the Atlantic Ocean during the Cold War. Although in some parts of Pakistan, even limited Indian thrusts would risk severing Pakistani lines of communication and threatening key cities, India would almost certainly have much more limited aims. Whereas Soviet forces planned to reach the English Channel in less than three weeks, Indian forces intend to—indeed, can only—traverse much shorter distances in much shorter periods of time, regardless of whether their objectives are to seize and hold territory or merely to inflict punishment.<sup>61</sup>

This difference matters for nuclear strategy. Although a state can establish whatever red lines for nuclear use it chooses, the credibility of those choices will depend on the threat being addressed. Just as Pakistan cannot credibly threaten nuclear use in response to U.S. drone strikes, so too must there come a point at which Indian military offensives are so limited that nuclear use is implausible.

**Pakistan misunderstands what battlefield nuclear weapons can and cannot achieve.**

**NATO primarily used tactical nuclear weapons to send political signals, not win on the battlefield.**

George Perkovich has argued that “the willingness to risk a breakdown in nuclear deterrence would only be rational if the threat that is being countered or deterred is of an existential scale. To risk suicide to redress a threat that is not itself mortal would be irrational.”<sup>62</sup>

It is nothing strange for a country to cast lesser threats as mortal ones. For one thing, it enhances uncertainty for India and, in doing so, forces Delhi to adopt a more risk-averse

position when deciding whether to opt for military action. But lowering the nuclear threshold again and again cannot keep generating *credible* ambiguity. That is an unsustainable strategy. It makes it more, not less, likely that deterrence will eventually fail in the event of a crisis. And if deterrence does fail, the presence of TNWs makes it more likely that failure will be more costly and liable to escalation.

### **Pakistan’s Risky Strategy**

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**Pakistan should prioritize survivability and reliability, not tactical utility.**

Pakistan already has sufficient numbers and types of nuclear weapons to ensure its survival in the face of all plausible threats. As Naeem Salik puts it, “Pakistan should have had more confidence in the credibility and efficacy of its existing nuclear deterrence capability.”<sup>63</sup> Like NATO before it, Pakistan also has the requisite means to send political signals through limited nuclear use, even if a war does break out; it can do so with its existing arsenal. If and when Pakistan eventually launches a sea-based deterrent—it set up a new Naval Strategic Force Command in May 2012—then it can be even more confident in its ability to keep its weapons

safe, even if fighting breaks out.<sup>64</sup> Pakistan should prioritize survivability and reliability, not tactical utility.

There are two dangers in comparing yourself to history, as Pakistan is doing with its comparisons to NATO during the Cold War. First, you can use the past to justify the present by looking solely at similarities and ignoring differences. Second, even where those likenesses are true, they can prove unpropitious. For example, NATO eventually realized that tactical nuclear weapons could not stave off defeat and would impose enormous costs; Pakistan is missing some of

these lessons. The country's present course, premised on a series of misunderstandings of what battlefield nuclear weapons can and cannot achieve, will increase friction with those nations who count themselves Pakistani allies. In the end, this strategy will generate new risks quite out of proportion to anything the country might gain.

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