

# Correspondence

## India's Pursuit of the Bomb and Strategies of Nuclear Proliferation

Gaurav Kampani

Vipin Narang

*To the Editors (Gaurav Kampani writes):*

In "Strategies of Nuclear Proliferation," Vipin Narang develops a typology of strategies that states use to acquire nuclear weapons.<sup>1</sup> Narang's theory privileges external demand-side factors in explaining states' responses to compelling material threats (conventional and nuclear) without adequately accounting for domestic supply-side factors (cultural, material, institutional, and organizational). To probe the plausibility of his theory, Narang examines India's history of pursuing a nuclear weapons capability.

Narang's theory combines changes in states' external material conditions with shifts in their domestic political consensus to explain how states proliferate. According to his theory, China's emergence as a nuclear weapons power in 1964 caused India's domestic political consensus to shift from a "technical" to a "hard" hedging nuclear strategy. Similarly, Pakistan's acquisition of nuclear weapons around 1987–88 led India in 1989 to a "sprint" to develop an operational nuclear force (pp. 136–146).

According to Narang, his theory refutes some of the leading supply-side constraint explanations for India's halting proliferation journey—namely, the normative hesitancy of Indian decisionmakers, the nuclear program's technological weaknesses, and its organizational dysfunction (pp. 146–148). There are two problems, however, with Narang's explanation. First, it fails to demonstrate that supply-side material and technical constraints were not a significant factor as Indian leaders pondered their country's nuclear trajectory during its quarter-century of hard hedging. Second, it cannot account for why India took so long to pursue a nuclear weapons capability once a political consensus for doing so had formed.

The best available historical accounts attribute India's hesitancy in developing an operational nuclear force to the moral qualms of Indian decisionmakers. More significant, however, these leaders feared the material costs of doing so. The material explanation has three components. First, Indian decisionmakers worried that an operational nuclear force would prove exorbitantly expensive. Second, they feared that the international community, led by the United States, would punish India by denying it development loans and capital. Third, the crippling sanctions imposed on India's civil nuclear power sector following its 1974 nuclear test served as a warning of what might befall

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*Gaurav Kampani is an assistant professor of political science at the University of Tulsa.*

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*Vipin Narang is an associate professor of political science at the Massachusetts Institute of Technology and a member of MIT's Security Studies Program.*

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1. Vipin Narang, "Strategies of Nuclear Proliferation: How States Pursue the Bomb," *International Security*, Vol. 41, No. 3 (Winter 2016/17), pp. 110–150, doi:10.1162/ISEC\_a\_00268. Further references to this article appear parenthetically in the text.

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*International Security*, Vol. 43, No. 1 (Summer 2018), pp. 177–180, doi:10.1162/ISEC\_c\_00315  
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the country's other high-technology sectors should India begin an aggressive nuclear weapons program.<sup>2</sup>

As a thought experiment, therefore, Narang might have asked: Would Indian decisionmakers have spent twenty-five years engaged in hard hedging absent the above material constraints? Narang's answer would appear to be yes, but he offers no evidence in this regard. Instead, he bases his discussion of India's years of hard hedging on literature that highlights the role of supply-side constraints in prolonging India's fractured domestic consensus on building a nuclear arsenal (pp. 137–143).

Given India's normative and material supply-side constraints, Indian decisionmakers sought to maximize their autonomy from both domestic proliferation and external nonproliferation lobbies during the era of hard hedging. To achieve this, they forced the nuclear weapons program underground, compartmentalizing the organizational actors working on it and stovepiping information to the top. In this regard, Narang argues that Indian leaders imposed excessive secrecy on the nuclear project because of their desire to retain autonomy solely from domestic pressure (pp. 144–145), not because they feared external sanctions or threats. He bases this claim on interviews with Ambassador Naresh Chandra, who served as the lead coordinator of India's nuclear weaponization efforts during the 1990s. Narang does not discuss, however, supply-side factors that might have compelled Indian leaders to so jealously guard their autonomy against other domestic proliferation lobbies. Based on interviews with Chandra and other members of India's nuclear network in the 1990s, I continue to maintain that the excessive secrecy in this period resulted largely from external nonproliferation pressures—specifically, the United States' threat of economic sanctions and a new round of technology denials.<sup>3</sup> Because data sources in the elite interview method are scarce, our differing claims can be resolved only as more data become available.

India's excessive centralization and secrecy around its nuclear program produced weak planning, organizational inefficiencies, and technological slippages. As a result, when India shifted from hard hedging to sprinting in 1989, the process of building a rudimentary operational nuclear force required ten years.<sup>4</sup> In Narang's recounting of the historical evidence, however, India was able to develop air-deliverable weapons by 1994, a mere five years after its 1989 decision to change policy (p. 145), which compares favorably with other nuclear weapon powers. By this, Narang means that India was able to develop the weaponized nuclear devices themselves, without accounting for the technics of safe and reliable aircraft and missile delivery or the organizational means to drop the weapons successfully on targets. Again, however, Narang bases his account on interviews with a single source, Ambassador Chandra (pp. 144–145). In contrast, my published research, which is based on a composite of interviews with Chandra as well as with senior Indian scientists and air force officials involved in the program at the

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2. George Perkovich, *India's Nuclear Bomb: The Impact on Global Proliferation* (Berkeley: University of California Press, 1999); and Raj Chengappa, *Weapons of Peace: The Secret Story of India's Quest to Be a Nuclear Power* (New Delhi: HarperCollins India, 2000).

3. Author's interviews with Ambassador Naresh Chandra, New Delhi, October and November 2009.

4. Gaurav Kampani, "New Delhi's Long Nuclear Journey: How Secrecy and Institutional Roadblocks Delayed India's Weaponization," *International Security*, Vol. 38, No. 4 (Spring 2014), pp. 95–104, doi:10.1162/ISEC\_a\_00158.

time, suggests that the process of operationalizing air-deliverable nuclear weapons stretched to at least 1999.<sup>5</sup> Therefore, the timeline for weaponization, if defined to include reliable means of aircraft delivery alongside the organizational routines to move weapons from stockpile to target, is twice what Narang asserts and undermines his claim that India's timeline for weaponization compares favorably to that of other nuclear weapons powers.

In sum, the Indian case comports with nuclear acquisition theory only if one ignores key material arguments and evidence.

—Gaurav Kampani  
Tulsa, Oklahoma

### *Vipin Narang Replies:*

I welcome Gaurav Kampani's response to my article "Strategies of Nuclear Proliferation," in which I develop a theory for how states pursue nuclear weapons.<sup>1</sup> The theory privileges external security variables—namely, a state's threat environment and alliance dynamics. I also argue, however, that to actively pursue nuclear weapons political leaders must generate a domestic political consensus (p. 126).

Kampani does not dispute the power or logic of my theory, or my medium-n tests showing that the theory explains the overwhelming majority of the nearly forty proliferation strategy choices states have made over time (p. 134). Instead, he challenges my characterization of the India case, which I use to test my theory. I address his two main arguments below.

First, Kampani argues that organizational dysfunction and secrecy, borne out of a fear of India's nuclear program being detected and sanctioned, explain its lumbering quarter-century march toward developing a nuclear weapons capability. These are static factors, however. As such, Kampani's theory predicts that India would never acquire nuclear weapons because it contains no theoretical factor that could shock India out of its supposed domestic dysfunction.

In contrast, I demonstrate that India pursued two distinct strategies toward nuclearization. The first, a hard hedging strategy, began in 1974 (the year of India's so-called peaceful nuclear explosion [PNE]). That strategy lasted until 1989, when Prime Minister Rajiv Gandhi explicitly ordered a sprint to weaponization. According to several of his advisers, the prime minister made this decision after receiving incontrovertible evidence of Pakistan's weaponization in 1988, and after his final effort at global disarmament failed at the United Nations the same year (p. 143). By 1994, India had developed a reliable aircraft-deliverable nuclear weapons capability and would eventually go on to develop a missile-deliverable force. Thus, the institutional secrecy and isolation that Kampani attributes to dysfunction were deliberately designed by India's

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5. Ibid.

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1. Vipin Narang, "Strategies of Nuclear Proliferation: How States Pursue the Bomb," *International Security*, Vol. 41, No. 3 (Winter 2016/17), pp. 110–150, doi:10.1162/ISEC\_a\_00268. Further references to this article appear parenthetically in the text.

civilian leaders to control the tempo of the program and to ensure that the scientists involved could not cross any critical thresholds before an explicit weaponization order was issued. It was not an accident.

More broadly, dysfunction, secrecy, and fear of sanctions—what Kampani curiously classifies as “supply side” factors—were not strong drivers of India’s distinctly phased nuclear acquisition process. Indeed, India hardly kept secret its nuclear weapons potential: the 1974 PNE and the 1980s nuclear missile program rendered its status as a threshold nuclear state obvious to anyone except the willfully blind. Certainly, the political leadership wanted to wait until the economy was more robust before testing nuclear weapons, which would trigger sanctions. Nothing, however, stopped it from weaponizing its nuclear capabilities—as Rajiv would explicitly order—if it so desired. Much of the process—including nuclear test preparations—can be undertaken without arousing international suspicion, as India’s ruling party demonstrated when it caught the world by surprise with the 1998 tests. India’s nuclear journey was strategic, and only my theory explains when and why India chose the distinct proliferation strategies it did.

Kampani’s second main criticism is that India did not cross the nuclear weapons threshold until 1999—five years after I identify it as having done so—claiming that what I characterize as a sprint was more like a jog. Judging when a state becomes a nuclear weapons power depends on the standard one selects. If that standard requires a weapons test, then India became “nuclear” in 1998 (though Prime Minister Narasimha Rao came within a hair’s breadth of testing India’s weapons in 1995); if it requires a reliable missile-delivery capability, then India became a nuclear weapons state only well into the 2000s.

By 1994, however, India had experimented for years with adapting a nuclear weapon for fighter aircraft delivery, and it possessed dozens of transport aircraft capable of air-dropping weapons. Raj Chengappa reports that in May 1994, “India finally had a reliable nuclear weapons delivery system” after conducting a successful cold test of a Mirage 2000 delivery of a gravity bomb.<sup>2</sup> Even Kampani’s Indian air force interlocutors seem to suggest that a highly reliable capability (i.e., not a one-way mission) was achieved by 1996.<sup>3</sup> Indian military officers undoubtedly complained to Kampani about being ignored by their civilian managers, but the air force is not necessary to design weapons components. Therefore, keeping senior air force officers apprised of the weaponization process until that work was complete was unnecessary. Why Kampani concludes that India became a nuclear weapons state only in 1999 is unclear. India’s own leaders—and certainly its adversaries—believed that their country had developed a reliable aircraft delivery capability by 1994. This is therefore the most appropriate milestone to employ in determining when India became a nuclear weapons power.

—Vipin Narang  
Cambridge, Massachusetts

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2. Raj Chengappa, *Weapons of Peace: The Secret Story of India’s Quest to be a Nuclear Power* (New Delhi: HarperCollins, 2000), pp. 382–384.

3. Gaurav Kampani, “New Delhi’s Long Nuclear Journey: How Secrecy and Institutional Roadblocks Delayed India’s Weaponization,” *International Security*, Vol. 38, No. 4 (Spring 2014), p. 98, doi:10.1162/ISEC\_a\_00158.