

China-India Relationship and Nuclear Deterrence*

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Abstract

The nuclear dimension of the China-India relationship has a striking feature vis-à-vis other nuclear rivalries. Due to significant asymmetries in their second strike capabilities, their deterrence relationship should lack military stability and entail risks such as potential nuclear use or threat of use, and nuclear arms race. In reality, however, the manifestation of such risks has been contained to a considerable extent. This situation can be explained by the features of the overall China-India relationship, the stability of the balance of conventional forces, the consolidation of confidence-building measures, the absence of the “stability-instability paradox” discourse, and the political conception of nuclear weapons in both countries.

Introduction

In the literature of international politics, the nature of the rivalry between nuclear-armed states was studied extensively during the Cold War, taking the U.S.-Soviet superpower rivalry as the subject matter. While such studies declined with the end of the Cold War, they have flourished once again since the 1990s with the onset of an international environment known as the “second nuclear age.” Within this context, the India-Pakistan rivalry has been the most researched to date. Meanwhile, The nuclear dimension of other relations has also been a topic of frequent discussion, including the U.S.-China and U.S./NATO-Russia relations.

Conversely, the rivalry between nuclear powers that has been overlooked the most is no doubt the China-India relationship. Because of close economic ties between Beijing and New Delhi, one may judge that their relationship is different from other highly militarized relations, like the U.S.-Soviet or India-Pakistan rivalry. This does not mean, however, that the China-India relationship is not a rivalry between nuclear powers. They fought a war in 1962 and since then continued to have friction, primarily around the border dispute that has remained unresolved. Recent years have also seen an increasingly noticeable competition in the Indian Ocean region. As such, the China-India relationship has an indisputable confrontational dimension. In addition, when India conducted its nuclear test in 1998, it mentioned China’s threat as a reason for developing nuclear weapons.¹ China, on the other hand, has reportedly considered India as a target of nuclear attack since the

* Originally published in Japanese in *Boei Kenkyusho Kiyo* [NIDS Security Studies], vol. 19, no. 2, December 2017. Some parts have been updated.

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¹ Raj Chengappa and Manoj Joshi, “Hawkish India,” *India Today*, June 1, 1998. <http://indiatoday.intoday.in/story/hawkishindia/1/264342.html>.

1980s.² In this light, there is no mistake that China and India have a nuclear rivalry that is worthy of analysis.

With the recent rise of both China and India, their relationship has gained importance in international politics. At the same time, their relationship has notably taken on a more confrontational dimension in recent years, contrary to the first half of the 2000s when the friendly nature of their relationship was touted. In this context, it is becoming undoubtedly important to understand the China-India relationship from a security perspective, and in this regard, it should be especially important to analyze the nuclear dimension that has not been adequately studied.

Taking the above into account, this paper examines the current China-India nuclear deterrence relationship. This study discusses its features by comparing with a “typical” nuclear deterrence relationship, envisioned based on traditional nuclear deterrence theory, the experience of the United States and the Soviet Union, and the experience of India and Pakistan, which is widely regarded to have high resemblance to the U.S.-Soviet relationship. This paper then examines whether the inherent features of the Sino-Indian nuclear deterrence, if any, have a chance of changing in the future.

China’s Nuclear Policy

(1) Nuclear posture

China decided to develop nuclear weapons and ballistic missiles in the mid-1950s and conducted its first nuclear test in 1964. The goal of such nuclear weapons has been consistent to date—detering nuclear attack against China as well as coercion underpinned by the threat of nuclear attack. To achieve this goal, China has sought to develop a nuclear force that could survive a nuclear first strike by an adversary and inflict unacceptable damage on the adversary through retaliation.³ This Chinese nuclear posture can be classified as “assured retaliation.”⁴

In general, assured retaliation is a relatively modest nuclear posture, both with respect to the goal of nuclear weapons as well as the quality and quantity of the necessary nuclear force. This is particularly striking when compared with the posture of the United States and the Soviet Union during the Cold War. Both superpowers sought to develop more “usable” nuclear weapons that can be employed in a variety of ways, not limited to genuine retaliation against nuclear attack, by incorporating nuclear war-fighting elements. To this end, they pursued large and diverse nuclear arsenals and sophisticated doctrines. In comparison, China’s nuclear force development has been inexplicably gradual and its arsenal has remained extremely small.⁵ Such peculiar Chinese policy course has been shaped largely by two factors.⁶ First, China’s nuclear policy was, until around

² Srikanth Kondapalli, “Revisiting No First Use and Minimum Deterrence: The View from India,” in *The China-India Nuclear Crossroads*, ed. Lora Saalman (Washington, DC: Carnegie Endowment for International Peace, 2012), p. 59.

³ Fiona S. Cunningham and M. Taylor Fravel, “Assuring Assured Retaliation: China’s Nuclear Posture and U.S.-China Strategic Stability,” *International Security*, vol. 40, no. 2 (Fall 2015), p. 7.

⁴ Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, NJ: Princeton University Press, 2014), p. 121.

⁵ M. Taylor Fravel and Evan S. Medeiros, “China’s Search for Assured Retaliation: The Evolution of Chinese Nuclear Strategy and Force Structure,” *International Security*, vol. 35, no. 2 (Fall 2010), p. 48.

⁶ Gaurav Kampani, “China-India Nuclear Rivalry in the ‘Second Nuclear Age’,” *IFS Insights*, no. 3 (November 2014), pp. 13-14, https://brage.bibsys.no/xmlui/bitstream/handle/11250/226454/Insight2014_3.pdf.

1990, firmly bound by the views of Mao Zedong and Deng Xiaoping, i.e., nuclear weapons are useful only for deterring their use by an adversary and not suited for war-fighting purposes. Furthermore, due to factors such as turmoil within the People's Liberation Army (PLA) caused by the Cultural Revolution with lasting effects until the 1980s, the operational aspects of nuclear weapons had not been scrutinized.

The pillars of China's nuclear posture were presented in an official manner for the first time in its 2006 defense white paper.⁷ It states mainly that: the goal of nuclear weapons is to deter other countries from using or threatening to use nuclear weapons against China; China upholds the principle of counterattack for self-defense; China is committed to the policy of no first use (NFU) of nuclear weapons; China will not use or threaten to use nuclear weapons against non-nuclear weapon states or nuclear-weapon-free zones (negative security assurance); China seeks to develop a "lean and effective" nuclear force; China will not engage in a nuclear arms race; and China's nuclear force is under the direct command of the Central Military Commission.⁸

A Chinese military officer notes that NFU is an element of China's nuclear policy that "has been most frequently and consistently repeated in numerous Chinese government statements ever since China became a nuclear weapon state in 1964."⁹ That said, the pros and cons of NFU have been a subject of constant debate in China. Especially from around the mid-2000s, such a debate was prompted by concerns that the United States would employ non-nuclear precision-guided strike capabilities against Chinese nuclear forces and strategic targets, such as dams, which was seemingly reflected in the internal military manual *Science of Second Artillery Campaigns* in 2004, stating that easing the terms of nuclear use is one option for China.¹⁰ All the while these debates drew domestic and international attention, Beijing omitted an explicit reference to NFU in the 2013 defense white paper, unlike the previous editions.¹¹ This raised speculation as to whether China had abolished NFU, but the PLA denied it.¹² NFU was put back into the following 2015 white paper.¹³ While there is no clear sign at this time that China would review its declared NFU commitment, these developments have created ambiguity about the rigorousness of the principle, and some view that China has resigned to accepting this ambiguity as a contributor to deterrence.¹⁴

Meanwhile, the PLA's internal doctrinal documents, such as the *Science of Campaigns* in 2000 and 2006, the *Science of Military Strategy* in 1987, 2001, and 2013, and the *Science of Second Artillery Campaigns* in 2004, identify the following type of nuclear counterstrike campaign as the only form of nuclear operation.¹⁵ Namely, when it has been attacked with nuclear weapons by an

⁷ Cunningham and Fravel, "Assuring Assured Retaliation," p. 12.

⁸ Information Office of the State Council of the People's Republic of China, *China's National Defense in 2006* (December 2006), <http://www.china.org.cn/english/features/book/194421.htm>.

⁹ Yao Yunzhu, "Chinese Nuclear Policy and the Future of Minimum Deterrence," *Strategic Insights*, vol. 6, issue 9 (September 2005), http://calhoun.nps.edu/bitstream/handle/10945/11470/Chinese_Nuclear_Policy.pdf.

¹⁰ Cunningham and Fravel, "Assuring Assured Retaliation," p. 24.

¹¹ "Information Office of the State Council of the People's Republic of China, *The Diversified Employment of China's Armed Forces* (April 2013), http://news.xinhuanet.com/english/china/2013-04/16/c_132312681.htm.

¹² Hui Zhang, "China's No-First-Use Policy Promotes Nuclear Disarmament," *The Diplomat*, May 22, 2013, <http://thediplomat.com/2013/05/chinas-no-first-use-policy-promotes-nuclear-disarmament/>.

¹³ The State Council Information Office of the People's Republic of China, *China's Military Strategy* (May 2015), http://eng.mod.gov.cn/Press/2015-05/26/content_4586805.htm.

¹⁴ Cunningham and Fravel, "Assuring Assured Retaliation," pp. 24-25.

¹⁵ *Ibid.*, pp. 13-14, 25-26.

adversary, China would conduct multiple waves of retaliatory strikes of various scale, rather than a single, massive retaliatory strike that would expend all of its nuclear forces, and thereby inflict unacceptable damage on the adversary. The targets of nuclear attack include value targets, such as major cities and industrial centers, as well as military targets, such as bases. This form of nuclear retaliation is called “key point counterstrikes” in China’s discourse, in which it seeks to shock an adversary into conceding and de-escalating a conflict.¹⁶ In this regard, China’s nuclear retaliation does not attach importance to the distinction between countervalue and counterforce; with respect to the distinction between deterrence by punishment and deterrence by denial, it clearly attaches importance to the former.¹⁷

China’s policy on nuclear force development is to maintain minimum nuclear forces that would enable the above. At the same time, it adopts the concept of “close defense” which emphasizes concealment and mobility of nuclear weapons to ensure that China’s retaliatory force survives a first strike by an adversary.¹⁸ Moreover, there appears to be debates about additional measures to ensure second strike capability. It has been observed that China does not normally deploy nuclear warheads on its missiles and stores them collectively under the custody of the Central Military Commission, and that procedures are taken to transfer them to the PLA only when there is a nuclear strike. There are reports, however, that opinions are being expressed within the military to further enhance the readiness of its nuclear forces.¹⁹ The 2013 *Science of Military Strategy* states that the adoption of launch-on-warning contributes to ensuring the survivability of China’s nuclear forces.²⁰ While China has not adopted launch-on-warning as a policy, its reference suggests ongoing debates within the military about its pros and cons.²¹

The Second Artillery Force was established in 1966 as the military’s ballistic missile force to handle the operation of China’s nuclear forces, and from the 1990s, has also been assigned the duty of operating conventional ballistic missiles. The Second Artillery Force is under the direct command of the Central Military Commission, and emphasis is given to implementing rigorous political control.²² According to the *Science of Military Strategy*, the Central Military Commission has the exclusive authority to employ missiles with nuclear warheads and determines the scale and timing of counterstrikes and the targeting.²³ In December 2015, the Second Artillery Force was elevated to a status of equal level with the army, navy, and air force as part of the reorganization of the PLA, and was positioned as a force with jurisdiction of the operation of all strategic forces.²⁴

¹⁶ Kampani, “China-India Nuclear Rivalry,” p. 16.

¹⁷ Jeffrey Lewis, “China’s Nuclear Modernization: Surprise, Restraint, and Uncertainty,” in *Strategic Asia 2013-14: Asia in the Second Nuclear Age*, eds. Ashley J. Tellis, Abraham M. Denmark, and Travis Tanner (Washington DC: The National Bureau of Asian Research, 2013), p. 80.

¹⁸ Cunningham and Fravel, “Assuring Assured Retaliation,” p. 14.

¹⁹ Hans M. Kristensen and Robert S. Norris, “Chinese Nuclear Forces, 2016,” *Bulletin of the Atomic Scientists*, vol. 72, no. 4 (June 2016), pp. 205, 210.

²⁰ Cunningham and Fravel, “Assuring Assured Retaliation,” pp. 30-31.

²¹ Michael Glosny, Christopher Twomey, and Ryan Jacobs, *U.S.-China Strategic Dialogue, Phase VIII Report* (Naval Postgraduate School, December 2014), p. 10, <https://calhoun.nps.edu/bitstream/handle/10945/44733/2014%20008%20-%20US-China%20Phase%20VIII%20Report.pdf>.

²² National Institute for Defense Studies, ed., *China Security Report 2016* (Tokyo: National Institute for Defense Studies, 2016), pp. 38-39.

²³ *Ibid.*, p. 39.

²⁴ Kristensen and Norris, “Chinese Nuclear Forces, 2016,” p. 205. However, it is unclear as to the submarine-based nuclear forces.

(2) Nuclear forces

China has historically developed its nuclear forces with a view to maintaining deterrence against the United States and the Soviet Union. Meanwhile, China's basic stance has been to avoid quantitative catch-up with the larger and more sophisticated nuclear forces of both superpowers. This stance has remained unchanged, even as China in recent years increasingly sees the United States as clearly pursuing strategic primacy, and therefore China is modernizing and expanding its nuclear forces at a moderate pace with a view to securing assured retaliation capabilities against the United States.²⁵ As of 2017, the number of nuclear warheads possessed by China is estimated at around 270.²⁶

Since the 1990s, the mainstay of China's nuclear force—land-based ballistic missiles—has been undergoing a transition, replacing liquid-fuel missiles that have a long launch time with solid-fuel missiles that enable quicker launches.

China is currently modernizing its intercontinental ballistic missiles (ICBMs) primarily targeted at the United States, while gradually increasing their quantity. During the past decade, China has introduced more solid-fueled DF-31 and its longer-range version, the DF-31A.²⁷ Terminated after only introducing a small amount of missiles, the 7,000 km range of the former is speculated to primarily target India, Russia, and Guam. China has also been developing the DF-41, another solid-fuelled ICBM. The U.S. government views that China would place multiple independently targetable re-entry vehicles (MIRVs) onto the DF-41.²⁸ In addition, since 2015, China has started deploying the DF-5B, a liquid-fuelled missile that carries MIRVs and has a range of 12,000 km. In early 2017, China conducted a flight test of the DF-5C reportedly capable of delivering 10 warheads.²⁹

In the context of the China-India relationship, shorter range, solid-fuelled road-mobile missiles for regional deterrence are also important. A leading example is the DF-21 series. While China operates the DF-21 (1,750 km range) and the DF-21A (2,150 km range) as nuclear platforms, the existence of a new version has also been reported.³⁰ According to Fiona Cunningham and Rory Medcalf, China stations the DF-21 at its missile base in Kunming, Yunnan Province, the DF-21 and DF-4 at its missile base in Delingha in Qinghai Province, and the DF-4 at its missile bases in

²⁵ Cunningham and Fravel, "Assuring Assured Retaliation," pp. 9-10.

²⁶ "Nuclear Notebook: Nuclear Arsenals of the World," Bulletin of the Atomic Scientists, accessed on August 1, 2017, <http://thebulletin.org/nuclear-notebook-multimedia>. Hereinafter, unless noted otherwise, references to China's nuclear forces in this section referred to Kristensen and Norris, "Chinese Nuclear Forces, 2016," pp. 205-210.

²⁷ Although the details are unknown, it appears that China also has the DF-31AG derivative with multiple warheads. "DF-31AG ICBM can Carry Multiple Warheads, Claims China's State Media," *Jane's Defence Weekly*, August 8, 2017, <http://www.janes.com/article/72971/df-31ag-icbm-can-carry-multiple-warheads-claims-china-s-state-media>.

²⁸ Travis Wheeler, "China's MIRVs: Separating Fact from Fiction," *The Diplomat*, May 18, 2016, <http://thediplomat.com/2016/05/chinas-mirvs-separating-fact-from-fiction/>.

²⁹ "China Tests Missile with 10 Nuclear Warheads: Reports," *The Indian Express*, February 2, 2017, <http://indianexpress.com/article/world/china-tests-missile-with-10-nuclear-warheads-donald-trump-presidency-4504092/>.

³⁰ Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2016* (April 26, 2016), p. 58, <https://dod.defense.gov/Portals/1/Documents/pubs/2016%20China%20Military%20Power%20Report.pdf>.

both Haihua in Hunan Province and Luoyang in Henan Province. Since the only plausible targets for the DF-21 in Delingha are cities in India and the only nuclear power within the range of the DF-21 in Kunming is India, China likely has India in mind for these missiles.³¹ While it is believed that U.S. military bases in Guam are the main targets, the dual-capable DF-26 with a range of 4,000 km, unveiled for the first time in 2015, has potential significance in the context of China-India nuclear deterrence.

As for cruise missiles capable of carrying nuclear warheads, China is known to have the DH-10 with a range of 1,500 km, as well as aircraft-launched DH-20 transported by the H-6K bomber, albeit the status of its development and operation is unclear. Some view that these cruise missiles provide China with flexibility that allows limited nuclear use against India.³²

With regard to submarine-based nuclear force, four JIN-class nuclear-powered ballistic submarines (SSBNs) are in operation, and successor vessels are under construction.³³ The JL-2 submarine-launched ballistic missile (SLBM), a variant of the DF-31, with a range of over 7,000 km will be deployed on the JIN-class SSBNs. While it is not clear whether JIN-class SSBNs have already been dispatched for nuclear deterrence patrol, a 2016 U.S. Department of Defense report predicted that China's SSBN would conduct its first nuclear deterrence patrol in 2016.³⁴ Western observers often note the JIN-class SSBN's inadequacy as a second strike capability against the United States.³⁵ This is because the JIN-class SSBN is detectable due to its lack of quietness, although the range of the JL-2 requires the SSBN to travel long distances to strike the U.S. mainland. However, the SSBN can serve as adequate second strike capability against India. Furthermore, China is scheduled to develop the new generation Type 096 SSBN and the JL-3 SLBM it will carry.

Closely associated with nuclear forces is the conventional ballistic missile force and missile defense. The former has expanded since the 1990s. Unlike nuclear missiles, China envisions the first use of conventional ballistic missiles in an offensive manner, and positions that attacks would be concentrated on the nodes of the adversary's command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) and force projection systems.³⁶ The PLA's envisaged scenario of war against India reportedly includes strikes against multiple strategic and tactical-level targets during the initial outbreak of war.³⁷ Most of conventional missiles have relatively short ranges and are considered to have in mind mainly deployment across the strait from

³¹ Fiona Cunningham and Rory Medcalf, *The Dangers of Denial: Nuclear Weapons in China-India Relations* (Lowy Institute for International Policy, October 2011), p. 7, https://archive.lowyinstitute.org/sites/default/files/pubfiles/Cunningham_and_Medcalf%2C_The_dangers_of_denial_web_1.pdf.

³² Kampani, "China-India Nuclear Rivalry," pp. 14-15.

³³ Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2017* (May 15, 2017), p. 60, https://www.defense.gov/Portals/1/Documents/pubs/2017_China_Military_Power_Report.PDF.

³⁴ Department of Defense, *Military and Security Developments Involving the People's Republic of China 2016*, p. 26.

³⁵ Bonnie Glaser and Matthew Funaiolo, "Submerged Deterrence: China's Struggle to Field an SSBN Fleet," Asia Maritime Transparency Initiative, May 9, 2016, <https://amti.csis.org/submerged-deterrence-chinas-struggle-field-ssbn-fleet/>.

³⁶ National Institute for Defense Studies, *China Security Report 2016*, pp. 46-47.

³⁷ Manjeet S. Pardesi, "China's Nuclear Forces and Their Significance to India," *The Nonproliferation Review*, vol. 21, issue 3-4 (September/December 2014), p. 346.

Taiwan.³⁸ However, the DF-21C with a range of 1,750 km and the DF-26 with a range of 4,000 km that can carry nuclear and non-nuclear warheads pose a threat to India. As regards missile defense, China possesses air defense missiles, such as Russian-made S-300 PMU1/PMU2 as well as HQ-9, HQ-15, and HQ-18, and has secured some level of capability in missile interception at the terminal phase.³⁹ It appears, nonetheless, that China has not yet decided what their role will be in its overall nuclear strategy.⁴⁰

2. India's Nuclear Policy

(1) Nuclear posture

Since shortly after gaining independence, India had pursued nuclear development for civilian purposes while recognizing that it could potentially be diverted for military use.⁴¹ Then, India's defeat in the Sino-Indian War of 1962 and China's nuclear test in 1964 further reinforced the view that nuclear weapons were necessary for India's security.⁴² This led to India's first nuclear test in 1974. Subsequently, India's development of nuclear weapons slowed down temporarily, but resumed in the 1980s due to concerns over the progress of Pakistan's development of nuclear weapons.⁴³ India became a de facto nuclear-armed state by around the end of the 1980s and pressed ahead with nuclear tests once again in May 1998. As shown by this chronicle, India's nuclear weapons are intended to serve as deterrence for China and Pakistan.

As for India's nuclear posture, the National Security Advisory Board (NSAB), a government advisory body, developed an unofficial draft nuclear doctrine (DND) in 1999.⁴⁴ However, it was not until 2003 that the nuclear posture was officially prescribed in the nuclear doctrine unveiled by the Prime Minister's Office.⁴⁵ Regarding India's nuclear forces, the doctrine sets forth building and maintaining a "credible minimum deterrence, but it does not provide a clear definition of its meaning. The Minister of External Affairs at the time of the 1998 nuclear test noted that while India will not engage in an arms race, it will give priority to the survivability of nuclear forces and that "minimum" is not a concept that can be fixed quantitatively.⁴⁶

India follows NFU, but there are some exceptions. According to the doctrine, while India will conduct nuclear strikes only in retaliation against a nuclear attack on Indian territory or on Indian forces and will not use nuclear weapons against non nuclear weapon states, India reserves the option of retaliating with nuclear weapons in the event of a major attack against India, or Indian

³⁸ National Institute for Defense Studies, *China Security Report 2016*, p. 48.

³⁹ *Ibid.*, p. 34.

⁴⁰ Cunningham and Fravel, "Assuring Assured Retaliation," p. 30.

⁴¹ Raj Chengappa, *Weapons of Peace: The Inside Story of India's Quest to be a Nuclear Power* (New Delhi: HarperCollins Publishers, 2000), pp. 71-72.

⁴² Karsten Frey, *India's Nuclear Bomb and National Security* (New York: Routledge, 2006), p. 11.

⁴³ George Perkovich, *India's Nuclear Bomb: The Impact of Global Proliferation*, updated edition (Berkeley, CA: University of California Press, 2001), pp. 217-218.

⁴⁴ Ministry of External Affairs, Government of India, *Draft Report of National Security Advisory Board on Indian Nuclear Doctrine* (August 17, 1999), <http://mea.gov.in/in-focus-article.htm?18916/Draft+Report+of+National+Security+Advisory+Board+on+Indian+Nuclear+Doctrine>.

⁴⁵ Prime Minister's Office, Government of India, *Cabinet Committee on Security Reviews Progress in Operationalizing India's Nuclear Doctrine* (January 4, 2003), <http://pib.nic.in/archieve/lreng/lyr2003/rjan2003/04012003/r040120033.html>.

⁴⁶ "India Not to Engage in a N-arms Race: Jaswant," *The Hindu*, November 29, 1999, p. 8.

forces, by biological or chemical weapons.⁴⁷ Concerning the implementation of nuclear retaliation, the doctrine adopts the principle of massive retaliation, or inflicting massive and “unacceptable” damage.⁴⁸ The doctrine does not contain any particular provisions about targeting, although it tends to be seen that New Delhi adopts countervalue targeting against cities and industrial bases,⁴⁹

Regarding command and control, the doctrine places a notable emphasis on civilian control. The doctrine states that: the use of nuclear weapons will be decided by the civilian political leadership through the Nuclear Command Authority (NCA); that the NCA comprises of a Political Council, which is chaired by the Prime Minister and has authority to approve the use of nuclear weapons, and an Executive Council, which is chaired by the National Security Advisor and provides inputs to the NCA and executes the directives given to it by the Political Council; and that a Commander-in-Chief of the Strategic Forces Command (SFC) will be appointed to manage and administer all nuclear forces.

Based on this official doctrine, it can be said that India, like China, has conformed to a nuclear posture of assured retaliation, i.e., securing credible deterrence against nuclear attacks by an adversary and its threat by possessing survivable nuclear forces to ensure it can execute retaliation even after it has been attacked by nuclear weapons.⁵⁰ What has upheld this nuclear posture is the fact that, as is the case in China, the political leadership which has had ultimate decision-making authority on nuclear policy has interpreted that nuclear weapons are political tools for deterrence and are not meant for war-fighting, and that the military, operator of the nuclear forces, has been excluded from nuclear-related policy-making.⁵¹

The official nuclear doctrine has not been amended formally since its release in 2003. In April 2013, Shyam Saran, former Foreign Secretary and then NSAB Chairman, affirmed that the doctrine is still relevant in a speech that is considered essentially a semi-official explanation. In his speech, Saran mentioned the following points: 1) ever since announcing the official doctrine, the government has, albeit at a measured pace, built nuclear forces with a view to maintaining NFU

⁴⁷ Shivshankar Menon, who was a key person in India’s nuclear policy serving as National Security Advisor from 2010 to 2014, makes a number of critical points regarding the interpretation of this official nuclear doctrine in his book released in 2016. Regarding NFU, he writes that this principle in the existing doctrine does not necessarily prohibit pre-emptive nuclear first use if it is certain that a nuclear attack by an adversary is imminent. Shivshankar Menon, *Choices: Inside the Making of India’s Foreign Policy* (Washington, DC: Brookings Institution Press, 2016), p. 110.

⁴⁸ The doctrine’s text is generally understood as demonstrating adoption of the principle of massive retaliation. Menon, however, states in his aforementioned book that the form of nuclear retaliation is not necessarily limited to massive attack. Meanwhile, Menon contends that India should respond with massive retaliation even if the first use of nuclear weapons by the other country is limited, which means that he in fact affirms the principle of massive retaliation. Given this, leaving aside the question of how severely restrictive it is, the principle of massive retaliation appears to be effective as a doctrinal concept. Menon, *Choices*, pp. 110-111, 116-117.

⁴⁹ Gurmeet Kanwal, “The Trajectory of India’s Nuclear Deterrence since May 1998,” Centre for Land Warfare Studies, May 18, 2015, <http://www.claws.in/1384/the-trajectory-of-indias-nuclear-deterrence-since-may-1998-brig-gurmeet-kanwal.html>; Manoj Joshi, “Ballistic Missile Nasr: A Bigger Threat from Pakistan,” *India Today*, June 2, 2011, <http://indiatoday.intoday.in/story/pakistans-short-range-ballistic-missile-nasr-is-a-matter-of-concern-for-india/1/140087.html>.

⁵⁰ Narang, *Nuclear Strategy in the Modern Era*, p. 95.

⁵¹ Arun Prakash, *India’s Nuclear Deterrent: The More Things to Change...* (Singapore: S. Rajaratnam School of International Studies, March 2014), p. 2, https://www.rsis.edu.sg/wp-content/uploads/2014/07/PR140301_India_Nuclear_Deterrent.pdf; Verghese Koithara, *Managing India’s Nuclear Forces* (Washington, DC: Brookings Institution Press, 2012), p. 10.

and using nuclear weapons only in retaliation in conformity with the doctrine; 2) it was necessary to create a command and control infrastructure that can survive a nuclear attack by an adversary; and 3) India's nuclear retaliation is designed to inflict massive and unacceptable damage.⁵²

Since the 2010s, the assertion that India should review various aspects of the nuclear doctrine has been increasingly debated among experts, including former officials. This debate was incited by Pakistan's introduction of tactical nuclear weapons.⁵³ The pros and cons of NFU and the principle of massive retaliation have been a particular point at issue. At the present point in time, however, there are no concrete signs of this leading to a change in the nuclear doctrine. In the 2014 general election, the Bharatiya Janata Party (BJP), the current ruling party at the Center, put review of the nuclear doctrine in its manifesto, and this was reportedly done with the intention of revising NFU in particular.⁵⁴ Nevertheless, Narendra Modi, the incumbent prime minister and prime minister candidate at the time, denied that India would revise NFU, describing it as "a reflection of our cultural inheritance."⁵⁵ After taking office, Modi reiterated that India was not carrying out any work to review its nuclear doctrine.⁵⁶

This is not to suggest that India's nuclear posture has not undergone any changes. For example, changes can be observed in its readiness posture. India has traditionally considered that nuclear retaliation does not have to be instantaneous.⁵⁷ Hence, New Delhi has maintained a low level of nuclear readiness: normally storing nuclear warheads and delivery vehicles separately.⁵⁸ In recent years, however, India has maintained some of its nuclear forces at a higher state of readiness, including some that can purportedly be launched within seconds or minutes, and this is particularly true of nuclear forces designed for retaliation against Pakistan.⁵⁹

(2) Nuclear forces

The DND announced in 1999 stated that India would build a triad of nuclear forces consisting of aircraft, land-based missiles and sea-based missiles, and thereby ensure survivability.⁶⁰ Though not stated in the official doctrine, it remains unchanged that India seeks nuclear forces that are small but can ensure assured retaliation and aims to build a triad. India is estimated to have around 130 nuclear warheads as of 2017, fewer than China's 270 and Pakistan's 140 as of the same year.⁶¹

⁵² Shyam Saran, *Is India's Nuclear Deterrence Credible?* (April 24, 2013), pp. 7, 16, <http://www.armscontrolwonk.com/files/2013/05/Final-Is-Indias-Nuclear-Deterrent-Credible-rev1-2-1-3.pdf>.

⁵³ Toby Dalton and George Perkovich, *India's Nuclear Options and Escalation Dominance* (Carnegie Endowment for International Peace, May 2016), p. 9, http://carnegieendowment.org/files/CP_273_India_Nuclear_Final.pdf.

⁵⁴ "BJP Puts 'No First Use' Nuclear Policy in Doubt," *Reuters*, April 7, 2014, <http://in.reuters.com/article/india-election-bjpmanifesto/bjp-puts-no-first-use-nuclear-policy-in-doubt-idINDEEA3605820140407>.

⁵⁵ "Modi Says Committed to No First Use of Nuclear Weapons," *Reuters*, April 17, 2014, <http://www.reuters.com/article/ukindia-election-nuclear/modi-says-committed-to-no-first-use-of-nuclear-weapons-idINKBN0D20QB20140416>.

⁵⁶ "India not Revisiting its Nuclear Doctrine, Modi Assures Japan," *Times of India*, August 30, 2014, <http://timesofindia.indiatimes.com/India/India-not-revisiting-its-nuclear-doctrine-Modi-assures-Japan/articleshow/41231521.cms>.

⁵⁷ "India Not to Engage in a N-arms Race."

⁵⁸ Koithara, *Managing India's Nuclear Forces*, p. 147.

⁵⁹ Narang, *Nuclear Strategy in the Modern Era*, p. 104.

⁶⁰ Ministry of External Affairs, Government of India, *Draft Report of National Security Advisory Board on Indian Nuclear Doctrine*.

⁶¹ "Nuclear Notebook: Nuclear Arsenals of the World."

Due to delays in the development of land-based ballistic missiles as a nuclear delivery vehicle, India has largely relied on fighter bombers to this day and assigned nuclear weapons delivery missions to the Jaguar IS/IB and the Mirage 2000H.⁶² Furthermore, some Su-30MKI are believed to have nuclear missions.⁶³ The 36 Rafalae jets that India agreed to procure from France in 2016 could also be used as nuclear delivery means.⁶⁴ However, delivering nuclear warheads with aircraft suffers from difficulties in striking China. Although the range and communications issues that were supposed to hamper the effectiveness of India's air leg against China in the 1990s have been partially resolved through the introduction of mid-air refueling aircraft and airborne early warning aircraft, there still remains the hurdle of breaking through China's air defense network.⁶⁵

India's land based ballistic missile force at last began to be operable from the latter half of the 2000s, excluding the Prithvi, which is inadequate as a second strike capability due to its short range and liquid propellant. Ever since Agni-1 with a range of 700 km became operational in 2007, Agni-2 with a range of 2,000 km was introduced in 2011, followed by Agni-3 with a range of 3,200 km in 2014. The development of Agni-4 with a range of 3,500 km is in the final stages. In June 2018, India conducted its sixth test fire of Agni-5 with a range of over 5,000 km that is currently in the advanced stage of development.⁶⁶ The Agni-1 to 3 missiles are primarily targeted at Pakistan, while the Agni-4 and 5 missiles are meant for China.⁶⁷ While Agni-4 can target nearly all of China from northern India, the longer range Agni-5 is needed when considering operation from inland or southern India in view of survivability.

The most superior in light of survivability is submarine-based nuclear force. India, which has developed nuclear submarines since the 1980s, launched the first vessel of the first indigenous Arihant-class SSBN in 2009 and commissioned it into service in August 2016.⁶⁸ In addition, India has already begun working on the second and third vessels.⁶⁹ However, India's SLBM developments have not reached a desired level: the K-15 that has already been developed has a

⁶² Hereinafter, unless noted otherwise, references to India's nuclear forces in this section referred to Hans M. Kristensen and Robert S. Norris, "Indian Nuclear Forces, 2017," *Bulletin of the Atomic Scientists*, vol. 73, no. 4 (July 2017), pp. 205-209.

⁶³ Yogesh Joshi, Frank O'Donnell, and Harsh V. Pant, *India's Evolving Nuclear Force and Its Implications for U.S. Strategy in the Asia-Pacific* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, June 2016), p. 4, <https://www.hsdl.org/?view&did=793704>.

⁶⁴ "Behind Rafalae Deal: Their 'Strategic' Role in Delivery of Nuclear Weapons," *The Indian Express*, September 18, 2016, <https://indianexpress.com/article/india/india-news-india/behind-rafale-deal-their-strategic-role-in-delivery-of-nuclear-weapons-3036852/>.

⁶⁵ Kampani, "China-India Nuclear Rivalry," p. 19; Pardesi, "China's Nuclear Forces and Their Significance to India," p. 344.

⁶⁶ "India Successfully Test-fires Nuclear Capable Agni-5," *The Times of India*, June 4, 2018, <https://timesofindia.indiatimes.com/india/india-successfully-test-fires-nuclear-capable-agni-5/articleshow/64434530.cms>.

⁶⁷ "India Successfully Test-fires Nuclear Capable Agni-V," *The Times of India*, December 26, 2016, <https://timesofindia.indiatimes.com/india/india-successfully-test-fire-nuclear-capable-agni-5/articleshow/56177457.cms>.

⁶⁸ "Indian Navy Secretly Inducts Indigenous Nuclear Submarine Capable of Launching Second Strikes," *International Business Times*, October 18, 2016, <http://www.ibtimes.co.uk/indian-navy-secretly-inducts-indigenous-nuclear-submarine-capable-launching-second-strikes-1586922>.

⁶⁹ "India's Deadliest Sub Is Ready for Operations," *The Diplomat*, February 24, 2016, <http://thediplomat.com/2016/02/indiasdeadliest-sub-is-ready-for-operations/>.

range of 750 km, and the K-4 that is being developed has a range of 3,500 km.⁷⁰ Taking into account China's anti-submarine capability, even the K-4 is inadequate for aiming at the primary targets in China from a safe distance, and India needs an SLBM with a range of 5,000 km to ensure second strike capability against China.⁷¹

Such pursuit of a triad is understandable within the assured retaliation posture. Meanwhile, India's recent development of strategic weapons has aspects that extend beyond this posture and can be construed as the pursuit of nuclear war-fighting, such as counterforce strikes against the nuclear forces of an adversary and the use of tactical nuclear weapons. For example, the BrahMos short-range supersonic cruise missile jointly developed by India and Russia can be launched from a variety of platforms and can carry nuclear warheads.⁷² In general, cruise missile has high precision and is suited for striking military targets. Additionally, though authorities have not said that it has a nuclear role, observers note that the 150 km range solid-fuelled road-mobile missile Prahaar tested in 2011 could be utilized as a tactical nuclear system.⁷³

Another noteworthy aspect is the development of MIRV and missile defense. Their combination could open the way for a nuclear war-fighting option, similar to the damage limitation strategy of the Cold War era, i.e., destroying a majority of an adversary's nuclear forces by first strike and then intercepting the adversary's retaliation with the forces that could not be destroyed with missile defense. India's development of missile defense, which moved into full swing in the end of the 1990s, is currently aiming at achieving a two-tiered system that intercepts missiles up to a 2,000 km range at altitudes of over 90 km and 15-45 km. For the next phase, plans are also underway to develop a system that can intercept 5,000 km range missiles.⁷⁴ With regard to MIRV, the Chairman of the Defence Research and Development Organisation (DRDO) — the lead organization in missile development — stated in 2012 that India would soon begin development of a MIRV-capable Agni-5, and in February 2016, a DRDO official expressed the view that the next focus of missile development would be MIRV.⁷⁵

While these developments may appear to suggest changes in India's nuclear posture, it is premature to draw such a conclusion. India has a strong tendency to advance weapons development

⁷⁰ "DRDO's Nuclear Capable K-4 Underwater Missile Test-fired again, This Time from INS Arihant: Report," *International Business Times*, April 9, 2016, <http://www.ibtimes.co.in/drdo-s-nuclear-capable-k-4-underwater-missile-test-fired-again-this-time-ins-arihant-report-673978>.

⁷¹ Gulmeet Kanwal, "India's Nuclear Force Structure 2025," *Regional Insight*, June 30, 2016, <http://carnegieendowment.org/2016/06/30/india-s-nuclear-force-structure-2025-pub-63988>.

⁷² "Indian Navy Tests Land Attack Brahmos Supersonic Cruise Missile: All You Need to Know," *The Indian Express*, April 22, 2017, <http://indianexpress.com/article/india/brahmos-cruise-missile-test-fire-ins-teg-all-you-need-to-know-4623788/>.

⁷³ Vipin Narang, "Five Myths about India's Nuclear Posture," *The Washington Quarterly*, vol. 36, no. 3 (Summer 2013), pp. 145-146.

⁷⁴ Rahul Bedi, "Indian Interceptors Complete Latest Trials," *Jane's Missiles & Rockets*, March 7, 2017. Although India stated in 2012 that it would deploy this two-tiered system in New Delhi and Mumbai by 2014, it appears to be delayed and the Ministry of Defence is working to induct them as quickly as possible. "India's MoD Demands Early Induction of Ballistic Missile Defense System," *Defense News*, May 18, 2017, <https://www.defensenews.com/land/2017/05/18/india-s-mod-demands-early-induction-of-ballistic-missile-defense-system/>.

⁷⁵ "DRDO Gears Up for Canister Launch of Agni-V," *Indian Defence News*, February 1, 2016, <http://www.indiandefensenews.in/2016/02/drdo-gears-up-for-canister-launch-of.html>.

with no relation to strategic demands.⁷⁶ The general assessment is that the development of MIRV and missile defense has largely been driven by the organizational interests of defense scientists, as well as the momentum of technology development, rather than strategic demands.⁷⁷ The political leadership and civilian officials have not officially endorsed the quest for MIRV.⁷⁸ Furthermore, the government has never once provided an official explanation of the purpose of missile defense development within the overall nuclear strategy.⁷⁹ As regards short-range missiles, a former SFC commander stated that the BrahMos is operated only with conventional warheads.⁸⁰ Some note that due to size and weight issues, the Prahaar cannot carry the nuclear warheads currently possessed by India.⁸¹ These factors, coupled with lack of signs of an actual review of the nuclear doctrine, indicate it is unlikely that India's nuclear posture is drifting toward nuclear war-fighting at this point in time. In other words, India still maintains the assured retaliation posture.

3. Military Assessment of China-India Nuclear Deterrence

What do the above nuclear postures and nuclear forces of the two countries say about China-India nuclear deterrence? First, it is striking that this deterrence relationship is largely asymmetric from a purely military standpoint. That is to say, the level of their nuclear capabilities, especially the assuredness of retaliatory forces, differs significantly between China and India.

China's nuclear forces have been developed with the purpose of achieving the capability enough to ensure that, even after absorbing a first strike, China can inflict unacceptable damage on the United States, which has far larger and more sophisticated nuclear forces than India.⁸² For this reason, China has already established adequate retaliatory capabilities against India, which is far inferior to the United States in terms of nuclear forces. In addition to mobile land-based ballistic missiles, such as the DF-31 and the DF-21/21A, China's submarine-based nuclear deterrent

⁷⁶ In India, the political leadership has approved weapons development plans while keeping vague whether the weapons would be actually deployed in the future. Meanwhile, the DRDO trumpets the significance of the weapons without fully coordinating with the political leadership and others. Retired military officers frequently comment on the uses of such weapons. However, there is strong mutual distrust between the DRDO and the military, and the latter has been removed from the planning and formulation of strategic weapons development. The DRDO has firmly protested against the military having the right of say in weapons specifications and production plans. Gaurav Kampani, "Is the Indian Nuclear Tiger Changing its Stripes?: Data, Interpretation, and Fact," *Nonproliferation Review*, vol. 21, no. 3-4 (2014), p. 387; Frank O'Donnell and Harsh V. Pant, "Evolution of India's Agni-V Missile: Bureaucratic Politics and Nuclear Ambiguity," *Asian Survey*, vol. 54, no. 3 (May-June 2014), pp. 595-596, 602; Prakash, *India's Nuclear Deterrent*, p. 2.

⁷⁷ Sumit Ganguly, "The Road from Pokhran II," in *The Politics of Nuclear Weapons in South Asia*, ed. Bhumitra Chakma (New York: Ashgate, 2011), p. 36; Koithara, *Managing Indian Nuclear Forces*, p. 223. It is noted that this has resulted in the development of a range of weapons whose role within the nuclear strategy is unclear and in minimal attention to improving the technological credibility and reliability of existing missiles. Koithara, *Managing India's Nuclear Forces*, p. 193.

⁷⁸ Joshua T. White and Kyle Deming, "Dependent Trajectories: India's MIRV Program and Deterrence Stability in South Asia," in *Deterrence Instability & Nuclear Weapons in South Asia*, eds. Michael Krepon, Joshua T. White, Julia Thompson, and Shane Mason (Washington, DC: Stimson Center, 2015), p. 179.

⁷⁹ Balraj Nagal, "India and Ballistic Missile Defense: Furthering a Defensive Deterrent," *Regional Insight*, June 30, 2016, <http://carnegieendowment.org/2016/06/30/india-and-ballistic-missile-defense-furthering-defensive-deterrent-pub-63966>.

⁸⁰ Narang, *Nuclear Strategy in the Modern Era*, p. 99.

⁸¹ Dalton and Perkovich, *India's Nuclear Options and Escalation Dominance*, p. 24.

⁸² As of the beginning of the 1970s, China's ballistic missile force was already capable of conducting effective countervalue strikes against India. Koithara, *Managing India's Nuclear Forces*, p. 30.

comprised of the JIN-class SSBN equipped with the JL-2 SLBM can reach all of India from the South China Sea, where China can skirt India's anti-submarine capabilities. Moreover, it appears China does not have serious concerns over the missile defense system of India, contrary to that of the United States.

India's second strike capability against China is a far cry from China's. The Agni-5 that can target all of China, including key targets in its northeastern region such as Beijing and Shanghai even if launched from India's inland, has not been operationalized yet. While the Agni-3 and 4 can target major cities in the inland and south, such as Chengdu, Chongqing, and Guangzhou, these missiles are limited in number. Furthermore, China has deployed the DF-21C in Delingha and Da Qaidan.⁸³ Taking into account the threat of this conventional ballistic missile, India must inevitably distance its nuclear missiles from the border, which means the reachable targets of Agni-3 and 4 with ranges less than 3,500 km are all the more limited. The situation of other delivery vehicles is not that different. Aircraft still faces the hurdle of breaking through the air defense network.⁸⁴ Submarine-based nuclear forces have inadequate ranges at this moment in time. Although there is information about progress with the design of a 5,000 km-class SLBM that can reach China's key targets from the Bay of Bengal, a safe location for India's SSBN, the length of this missile likely prevents deployment on the existing Arihant-class vessel.⁸⁵

Such limits of the delivery vehicles, coupled with India's lack of operational thermonuclear weapons, have made the country's second strike capability against China inadequate. Some assess that India's nuclear deterrence against China still remains at a level of existential deterrence.⁸⁶ China's ongoing development of missile defense, as well as the fact that MIRVs can be carried on the DF-5B already inducted and the DF-5C and the DF-41 under development, albeit for these ICBMs primarily for deterrence against the United States, further compromise India's second strike capability. Incidentally, India's MIRV development program has not been tested.

The developments in India's nuclear forces are, however, gradually beginning to draw the attention of China. For example, the *Science of Military Strategy* of 2013 expressed the view that Indian nuclear forces were developing rapidly.⁸⁷ While it is thought in China that Agni-5 has not yet reached a militarily operational level,⁸⁸ Chinese military analysts note this missile is a milestone in India's acquisition of a deterrent against China.⁸⁹

Viewed from the lens of the traditional nuclear deterrence theory, as well as the experience

⁸³ S.D. Pradhan, "China Accelerates Its Missile Development Programme," *The Times of India Blog*, January 2, 2011, <http://blogs.timesofindia.indiatimes.com/ChanakyaCode/china-accelerates-its-missile-development-programme/>.

⁸⁴ Kalyan Kemburi, "Recalibrating Deterrence Theory and Practice: The View from India," in *The China-India Nuclear Crossroads*, ed. Saalman, p. 85.

⁸⁵ Iskander Rehman, *Murky Waters: Naval Nuclear Dynamics in the Indian Ocean* (Washington, DC: Carnegie Endowment for International Peace, 2015), p. 13, http://carnegieendowment.org/files/murky_waters.pdf.

⁸⁶ Pardesi, "China's Nuclear Forces and Their Significance to India," p. 344.

⁸⁷ Eric Heginbotham, et.al., *China's Evolving Nuclear Deterrent: Major Drivers and Issues for the United States* (Santa Monica, CA: RAND Corporation, 2017), p. 82.

⁸⁸ Srikanth Thaliyakkattil, "Chinese Perceptions on India's Long Range Missile Development: How Credible is India's Deterrence against China?," *ISAS Working Paper*, no. 258 (April 24, 2017), p. 15, <https://www.isas.nus.edu.sg/ISAS%20Reports/ISAS%20Working%20Papers%20No.%20258-Chinese%20Perceptions%20on%20India%27s%20Long%20Range%20Missile%20Development.pdf>.

⁸⁹ Heginbotham, et.al., *China's Evolving Nuclear Deterrent*, pp. 83-84.

of the U.S.-Soviet and the India-Pakistan relations, the China-India nuclear deterrence relationship seems to lack stability in military terms and entail multiple nuclear-related risks. Among the risks, the most prominent one is the issue of “first strike instability.” It is a situation in which, if a serious crisis or conventional war breaks out, the side which is inferior in terms of assuredness of retaliatory capabilities feels pressured to resort to early use of nuclear weapons driven by a fear that the opponent would attempt a disarming first strike by leveraging its nuclear superiority, which in turn leads to creating an incentive for the superior side to make an early use, taking into account the risk of the inferior side employing nuclear weapons hastily due to such psychological pressure.⁹⁰ In connection with this, it is possible that the inferior side in peacetime would move towards expanding its nuclear forces to avoid first strike and nuclear coercion by the superior side, thereby triggering a nuclear arms race. Secondly, if the side with superior nuclear capability strongly seeks to change the status quo, it may leverage this superiority and engage in coercion underpinned by the threat of nuclear use as described above.⁹¹ Thirdly, if the inferior side is in the process of acquiring a more assured retaliatory force, the superior side is supposedly incentivized to prevent this by launching a preventive attack before such nuclear force is acquired.⁹²

The issue is to what extent: 1) such nuclear-related risks which supposedly arise have actually materialized between China and India, and 2) the two countries are concerned about it.

China indeed views that its nuclear deterrent is fully capable of dealing with India.⁹³ However, even as China has hardened its stance over border issues since the latter half of the 2000s, there are no traces of China attempting nuclear coercion against India leveraging its nuclear superiority.⁹⁴ This can be said not only for peacetime but also when tensions are high. In April 2013, Chinese border guards crossed the Line of Actual Control in the Western border area and intruded into the Indian controlled area, which led to a standoff between the units of the two countries. Furthermore, in June-August 2017, Chinese and Indian units confronted each other in the Doklam highland over the China-Bhutan border dispute. Nevertheless, nothing of the likes of a Chinese nuclear threat can be found in these incidents.

India’s efforts to achieve second strike capability against China have drawn the attention of Beijing, but its reaction has been restrained. China’s domestic discourse has shown some concerns

⁹⁰ Regarding this point, see Elbridge A. Colby, “Defining Strategic Stability: Reconciling Stability and Deterrence,” in *Strategic Stability: Contending Interpretations*, eds. Elbridge A. Colby and Michael S. Gerson (Carlisle Barracks, PA: U.S. Army War College Press, 2013), p. 48.

⁹¹ During the Cold War, the United States feared that the Soviet Union would develop a posture capable of fighting a nuclear war with counterforce capability and would attempt nuclear coercion. Richard Pipes, “Why the Soviet Union Thinks It could Fight and Win a Nuclear War,” *Commentary*, vol. 64, no. 1 (July, 1977), pp. 31-34.

⁹² While it was not ultimately carried out, there is evidence that India considered such preventive attack against Pakistan in the 1980s. Sumit Ganguly and Devin T. Hagerty, *Fearful Symmetry: India-Pakistan Crises in the Shadow of Nuclear Weapons* (Seattle, WA: University of Washington Press, 2005), pp. 55-58.

⁹³ Xiaoping Yang, “China’s Perceptions of India as a Nuclear Weapons Power,” *Regional Insight*, June 30, 2016, <http://carnegieendowment.org/2016/06/30/china-s-perceptions-of-india-as-nuclear-weapons-power-pub-63970>; Susan Turner Haynes, “China’s Nuclear Threat Perceptions,” *Strategic Studies Quarterly*, vol. 10, no. 2 (Summer 2016), p. 44.

⁹⁴ Between 1986 and 1987 when the China-India relationship was far more dismal than it is today, a crisis occurred that caused the highest tensions between the two countries since the Sino-Indian War of 1962. Both countries confronted each other by mobilizing approximately 200,000 troops, respectively, in the eastern border region. Nonetheless, then senior official of the Indian Defence Ministry stated that China did not make any nuclear threats during this time. Perkovich, *India’s Nuclear Bomb*, p. 290.

over Agni-5 described as a “China killer” by the Indian media.⁹⁵ Nonetheless, countermeasures such as preventive attack have not been endorsed in China. When the Chinese Foreign Ministry Spokesperson was asked to comment on the fourth test-firing of Agni-5 conducted in December 2016, her reaction was that relevant United Nations Security Council resolutions have clear rules on whether India can develop nuclear missiles, that maintaining strategic balance and stability in South Asia is important, and that China and India are not rivals but partners.⁹⁶

Another point of note is the situation of India which is in an inferior position. India’s domestic discourse often advocates development of various strategic weapons in terms of achieving second strike capability against China.⁹⁷ Such discourse indicates that there exist recognitions on the inadequateness of the assuredness of its retaliatory forces. However, there remain many inexplicable factors to conclude that India’s nuclear policy has been strongly shaped by imminent concerns that its inadequate second strike capability could invite China’s disarming first strike or coercion leveraging such a threat, in the midst of a crisis or conventional war.

For example, if it had serious concerns, it would be natural for India to expand its delivery vehicles qualitatively and quantitatively and seek to actively catch up on the number of nuclear warheads, of which China has more than double that of India. India’s development of nuclear forces, however, has continued to proceed at a slow pace, and furthermore, the development appears to strongly reflect the momentum of technology development rather than urgent strategic needs.⁹⁸ In addition, India has deep-rooted suspicion over the credibility of China’s NFU.⁹⁹ If India felt serious vulnerability stemming from its inadequate second strike capability vis-à-vis China, India would naturally seek to revise or revoke its NFU policy. The government of India,

⁹⁵ Heginbotham, et al., *China’s Evolving Nuclear Deterrent*, p. 83.

⁹⁶ “Agni-5 Test: China Lashes Out at Indian Media, Says New Delhi-Beijing are Partners, not Rivals,” *FirstPost*, December 27, 2016, <http://www.firstpost.com/world/agni-5-test-china-lashes-out-at-indian-media-says-new-delhi-beijing-are-partners-notrivals-3176134.html>.

⁹⁷ For example, Rajesh Basrur and Jaganath Sankaran, “India’s Slow and Unstoppable Move to MIRV,” in *The Lure and Pitfalls of MIRVs: From the First to the Second Nuclear Age*, eds. Michael Krepon, Travis Wheeler, and Shane Mason (Washington, DC: Stimson Center, May 2016), pp. 124-125, https://www.stimson.org/sites/default/files/file-attachments/Lure_and_Pitfalls_of_MIRVs.pdf; Joshi, O’Donnell, and Pant, *India’s Evolving Nuclear Force and Its Implications for U.S. Strategy in the Asia-Pacific*, p. 17.

⁹⁸ Kampani, “China-India Nuclear Rivalry,” p. 25.

⁹⁹ Cunningham and Medcalf, *The Dangers of Denial*, p. 6; Vinod Anand, “The Role of Ballistic Missile Defense in the Emerging India-China Strategic Balance,” *Occasional Paper* (January 2013), p. 14, <http://www.vifindia.org/sites/default/files/the-role-of-ballistic-missile-defence-in-the-emerging-india-china-strategic-balance.pdf>. For example, within the India’s strategic community, it is often noted that India, a nuclear power outside of the NPT, is excluded from the scope of China’s NFU. It has also been pointed out that, since Beijing maintains that the use of nuclear weapons on its territory is outside the scope of NFU, China could resort to nuclear first use in Arunachal Pradesh, which is under the effective control of India but claimed by China. Moreover, there has been assertion that China could engage in nuclear retaliation in response to conventional attacks against China’s strategic targets, such as nuclear forces and industrial bases. Asif Ahmed, “Emerging Chinese Security Threats in Indian Context: Need for India to Review Security Strategy-Analysis,” *Eurasia Review*, August 8, 2012, <http://www.eurasiareview.com/08082012-emerging-chinese-security-threats-in-indian-context-need-for-india-to-review-security-strategyanalysis/>; Gurmeet Kanwal, “Relative Nuclear Capabilities of India, China & Pakistan,” *Indian Defence News*, July 6, 2016, <http://www.indiandefensenews.in/2016/07/relative-nuclear-capabilities-of-india.html>; Manpreet Sethi, *Nuclear Strategy: India’s March towards Credible Deterrence* (New Delhi: Knowledge World, 2009), p. 133.

however, has repeatedly upheld NFU.¹⁰⁰ Even within the strategic community where the topic of NFU revision has been frequently discussed, the majority has supported the view that India should keep NFU.¹⁰¹ Although it is indeed true that the possibility of India's NFU revision has been drawing attention once again since March 2017, it has been discussed in the context of India-Pakistan nuclear deterrence.¹⁰² In recent years, India has reportedly made efforts to increase the readiness of some of its nuclear forces in order to improve their survivability, but, according to former National Security Advisor Brajesh Mishra, such efforts are prompted by concerns over the nuclear first use not by China but Pakistan, and have led to shortening the preparation time for launching Agni-1, mainly aimed at Pakistan.¹⁰³

Retired Vice Admiral of the Indian Navy Verghese Koithara notes that the Indian government has not taken China's nuclear threat seriously, unlike the threat of conventional forces.¹⁰⁴ He states that while nuclear deterrence against China is a frequent theme in India's domestic security discourse, it does not mean India has given serious and practical considerations to the challenges of ensuring second strike capability against China.¹⁰⁵ Rajesh Basrur, known for his seminar work on India's minimum deterrence posture, opines that while India's strategists discuss the need for capabilities that can survive surprise attacks, there has been virtually no discussion of the realistic risk of China launching such attacks. He states that acquisition of second strike capability is advocated no more than because general principles require it, rather than because of a perceived imminent threat from China.¹⁰⁶ As this suggests, there have been almost no debates, in either China or India, regarding the risk that China, fearing India's early use of nuclear weapons intended to avoid China's surprise first strike in a crisis, would conversely resort to nuclear early use against India.

Based on the above analysis, what characterizes the present China-India nuclear deterrence relationship is not asymmetry in military terms itself. Rather, it should be noted that, although such asymmetric equation is supposed to lack military stability and entail multiple nuclear-related risks, in reality, the manifestation of such risks has been reined in to a considerable extent. This situation significantly deviates from the conventional wisdom on the modality of a typical nuclear rivalry.

4. Stabilizing Factors

What then explains the reason why nuclear-related risks are contained in the Sino-Indian nuclear

¹⁰⁰ Ministry of Defence (Navy), *Ensuring Secure Seas: Indian Maritime Security Strategies* (October 2015), p. 48, http://www.indiannavy.nic.in/sites/default/files/Indian_Maritime_Security_Strategy_Document_25Jan16.pdf; Headquarters Integrated Defence Staff, Ministry of Defence, *Joint Doctrine Indian Armed Forces* (April 2017) p. 37, http://bharatshakti.in/wp-content/uploads/2015/09/Joint_Doctrine_Indian_Armed_Forces.pdf.

¹⁰¹ Rajesh Rajagopalan, "India's Nuclear Doctrine Debate," *Regional Insight*, June 30, 2016, <http://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950>. Likewise, SFC, which operates nuclear forces, has not promoted NFU's revocation. Kampani, "China-India Nuclear Rivalry," pp. 21-22.

¹⁰² "NUKEFEST2017 Hot Takes: Potential Indian Nuclear First Use?," South Asian Voices, March 21, 2017, <http://southasianvoices.org/sav-dc-nukefest2017-potential-indian-nuclear-first-use/>.

¹⁰³ Narang, *Nuclear Strategy in the Modern Era*, p. 104.

¹⁰⁴ Koithara, *Managing India's Nuclear Forces*, p. 7.

¹⁰⁵ *Ibid.*, p. 94.

¹⁰⁶ Rajesh Basrur, *India and China: Nuclear Rivalry in the Making?* (Singapore: S. Rajaratnam School of International Studies, October 2013), p. 7, https://www.rsis.edu.sg/wp-content/uploads/2014/07/PB131001_India_and_China_Nuclear_Rivalry.pdf.

deterrence relations, despite lack of conditions for military stability?

(1) The nature of the overall China-India relationship

The first notable factor is the nature of the overall China-India relationship, not limited to the military domain. While there are several issues between the two countries giving rise to friction, the relationship also involves strong cooperative elements.

The cold relationship between the two countries, which had emerged in the wake of the Sino-Indian War of 1962, began to change following their military crisis over the border dispute in 1986-1987 and Prime Minister Rajiv Gandhi's visit to China in 1988. Although this trend of rapprochement peaked when the two sides agreed to establish the "Strategic and Cooperative Partnership for Peace and Prosperity" during Premier Wen Jiabao's visit to India in 2005, since the latter half of the 2000s, China has begun to assert its claims more strongly on the border dispute.¹⁰⁷ This in turn has prompted India to toughen its stance against China.¹⁰⁸ Even then, the cooperative aspect of the Sino-Indian relationship has firmly remained. The political leadership of the two countries has regularly visited each other, along with having frequent meetings on the sidelines of international gatherings.

Tangible cooperation between the two countries should also be noted. Above all, China and India have significant economic ties, unlike other nuclear rivalries such as the United States and the Soviet Union as well as India and Pakistan.¹⁰⁹ China is India's largest trading partner, while India is China's largest trading partner in South Asia.¹¹⁰ Bilateral trade has increased from US\$ 2.92 billion in 2000 to US\$ 70.4 billion by 2015.¹¹¹ While the relative weight of its economic relationship with India is small for China due to the large size of its economy, China attaches importance to India for the implementation of the "Belt and Road" initiative, a major economic development project in Eurasia and beyond, and has continued to entice India into joining the initiative.¹¹²

The two countries have cooperative relations in non-economic sectors as well. In the security field, they have deepened their cooperation on counter-terrorism measures. They have held joint counter-terrorism drills and also have a scheme for exchanging terrorism-related information.¹¹³ Additionally, the two countries have cooperated on efforts to achieve a multipolar international order. For example, under the BRICS framework that also includes Brazil, Russia, and South Africa, China and India call for the reform of the international economic and financial system

¹⁰⁷ Keshava D. Guha, "Sino-Indian Relations: History, Problems and Prospects," *Harvard International Review*, vol. 34, no. 2 (Fall 2012), p. 28.

¹⁰⁸ Kampani, "China-India Nuclear Rivalry," p. 9.

¹⁰⁹ Basrur, *India and China*, p. 5.

¹¹⁰ "Chinese Embassy Spokesperson's Remarks on Boycott of Chinese Goods," Embassy of the People's Republic of China in India, October 27, 2016, http://in.china-embassy.org/eng/embassy_news/t1409009.htm.

¹¹¹ Ministry of External Affairs, Government of India, *India-China Bilateral Relations* (December 7, 2016), https://www.mea.gov.in/Portal/ForeignRelation/China_07_12_2016.pdf.

¹¹² Masahiro Kurita, "Chugoku Pakisutan Keizai Kairo wo meguru Kokusai Seiji to Anzen Hoshoho no Gani [China-Pakistan Economic Corridor: Implications for International Politics and Security]," *NIDS Commentary*, no. 61 (June 14, 2017), p. 4. <http://www.nids.mod.go.jp/publication/commentary/pdf/commentary061.pdf>.

¹¹³ Frantz-Stefan Gady, "China, India Hold Joint Military Drill," *The Diplomat*, November 17, 2016, <http://thediplomat.com/2016/11/china-india-hold-joint-military-drill/>; "India, China Issue Joint Statement on Counter-terrorism Cooperation," *Hindustan Times*, November 21, 2015, <http://www.hindustantimes.com/india/india-china-issue-joint-statement-on-counterterrorism-cooperation/story-eoce8KHUNJDg3tkyCsMunL.html>.

centered on the West and established the New Development Bank (BRICS Development Bank).¹¹⁴ In addition, India is a founding member and the second largest shareholder of the China-led Asian Infrastructure Investment Bank (AIIB). India has also participated in China and Russia-led Shanghai Cooperation Organization (SCO) as an observer since 2005 and became an official member in June 2017. Furthermore, China and India have coordinated their actions at forums for international negotiations on climate change, opposing rules that would impede their economic growth and calling on developed countries to provide technology transfers and financial assistance.¹¹⁵

The significance of these cooperative elements of their bilateral relationship compels both countries to refrain from using military force, including nuclear weapons, and from changing the status quo with a threat of force. Even if some cause were to incite a military crisis or clashes, resulting in rising tensions, the cooperative aspect acts as a restraint to avoid war and, of course, the use of nuclear weapons. At the same time, such factors give reassurance to both countries that the other side would be compelled to exercise self-restraint in a similar manner.

Meanwhile, attention must be paid to the details of the confrontational dimension of the China-India relationship, in particular, to the nature and structure of the issues that are causing such rivalry. While the issues between the two countries are wide-ranging, the original source of the China-India rivalry and at the root of their mutual distrust to date is the border dispute.¹¹⁶

The border dispute over the jurisdiction of some 125,000 km² of territory manifested in the end of the 1950s and led to the Sino-Indian War of 1962.¹¹⁷ The disputed areas can be divided into the eastern, central, and western border areas. The primary areas of contention are: the western border area of Aksai Chin, located in the eastern region of the former princely state of Kashmir and under the effective control of China; and the eastern border area, surrounded by the state of Assam in northeastern India as well as Bhutan, Chinese Tibet, and Myanmar and home to the state of Arunachal Pradesh under the effective control of India. Talks aimed at settling the dispute began in 1981. They were elevated to high-level meetings between special representatives in 2003, and these talks have continued since then. However, there are no signs that the dispute will be settled. China and India disagree on the alignment of the line of actual control, and both countries send border troops to carry out reconnaissance activities daily, frequently resulting in incidents in which the two countries accuse each other of transgression.

The rivalry stemming from this border dispute has been compounded by a number of other contentious issues. The most closely linked with the border dispute is the Tibet issue. China has long been dissatisfied with India, which has provided asylum to the Dalai Lama since 1959 and has

¹¹⁴ Laurence Vandewalle, *India and China: Too Close for Comfort?* (European Parliament, July 2016), p. 17, http://www.europarl.europa.eu/RegData/etudes/IDAN/2016/570466/EXPO_IDA%282016%29570466_EN.pdf.

¹¹⁵ Takenori Horimoto, *Indo Daisan no Taikoku e: <Senryakuteki Jiritsu> Gaiko no Tuikyū* [Toward the World's Third Great Power: India's Pursuit of Strategic Autonomy] (Tokyo: Iwanami Shoten, 2015), pp. 74-75. Some have also noted, however, that due to the difference in the stage of their economic development, the climate policies of China and India are beginning to diverge in recent years. Chietigj Bajpae, "China-India: Regional Dimensions of the Bilateral Relationship," *Strategic Studies Quarterly*, vol. 9, no. 4 (Winter 2015), p. 111.

¹¹⁶ *Ibid.*, p. 112.

¹¹⁷ Hereinafter, unless noted otherwise, the description of the border dispute in this section referred to Masahiro Kurita, "Chuin Kokkyo Mondai no Genjo: Nikokukan Kankei no Zentaikozo no Shiten kara [Current Situation of the Sino-Indian Border Issue: In Terms of the Overall Structure of the Bilateral Relationship]," *The Reference*, no. 754 (November 2013), pp. 43-55.

allowed the existence of the Tibetan government in exile in Dharamsala.¹¹⁸ Meanwhile, since the 1960s, India has been disquieted by China's provision of military supports to Pakistan, a country with which India has a more militarized dispute than China. In addition, since the 2010s, India's distrust has been exacerbated by China's expanded involvement in Pakistan-administered Kashmir through the China-Pakistan Economic Corridor (CPEC) and Chinese attempts to frustrate India's efforts to question Pakistan's support for terrorism at the United Nations.¹¹⁹

Aiming to secure sea lanes, China has intensified its naval activities in the Indian Ocean, deepened its relations with not only Pakistan but also other coastal countries such as Bangladesh, Myanmar, and Sri Lanka, and invested in ports and other infrastructure that have potential military uses. Perceiving such activities as China's efforts to contain India, the latter has attempted to counter China by similarly expanding its engagement with regional neighbors and enhancing its defense capabilities.¹²⁰ Moreover, India has been engaged in security cooperation with countries that have discords with China at sea, such as Japan, the United States, and Vietnam, which in turn has fuelled China's concerns.¹²¹ In addition, the water resource dispute and China's opposition to India's accession into the Nuclear Suppliers Group are also included in the list of bilateral thorns.¹²²

While emergence of these issues has in a sense been "facilitated" by the distrust stemming from the border dispute, tensions caused by such issues can be translated into a hardline attitude on the border dispute. This partially explains why, since the latter half of the 2000s, China has hardened its stance on the border dispute and the China-India confrontation over this issue has become more salient.¹²³ Even then, it remains unlikely as of now that the issues other than the border dispute will evolve into serious military contingencies. The border dispute, on the other hand, has triggered a conventional war and was a source of a military crisis in 1986-1987. Besides, in recent years, both countries have sought to strengthen their defense postures near the border and intensified their reconnaissance activities around the line of actual control. Nevertheless, both China and India do not intend to use military forces to drastically change the existing arrangement in the areas. As the disputed border areas are so far from the political and economic centers of both countries, there is little prospect for skirmishes in these areas to escalate into large-scale

¹¹⁸ Vandewalle, *India and China*, pp. 6-7.

¹¹⁹ Regarding India's concerns about the China-Pakistan quasi-alliance, see Masahiro Kurita, "The 'Pakistan Factor' in China-India Relations," *NIDS Commentary*, no. 48 (July 29, 2015), pp. 4-5, <http://www.nids.mod.go.jp/english/publication/commentary/pdf/commentary048e.pdf>.

¹²⁰ Mari Izuyama and Masahiro Kurita, "Security in the Indian Ocean Region: Regional Responses to China's Growing Influence" in *East Asian Strategic Review 2017*, ed. National Institute for Defense Studies (Tokyo: The Japan Times, 2017), pp. 42-52.

¹²¹ Aparna Pande, "Friends of Last Resort: Pakistan's Relations with China and Saudi Arabia," in *Pakistan's Enduring Challenges*, eds. C. Christine Fair and Sarah J. Watson (Philadelphia, PA: University of Pennsylvania Press, 2015), p. 272.

¹²² Selina Ho, "Power Asymmetry in the China-India Brahmaputra River Dispute," *Asia Pacific Bulletin*, no. 371 (February 16, 2017), pp. 1-2, <https://www.eastwestcenter.org/system/tdf/private/apb371.pdf?file=1&type=node&id=35993>; "India Has Active Territorial Dispute with China: Report," *Economic Times*, June 3, 2017, <http://economictimes.indiatimes.com/news/defence/india-has-active-territorial-dispute-with-china-report/articleshow/58974784.cms>.

¹²³ Masahiro Kurita, "Chuin Kokkyo Mondai no Genjo," pp. 60-61.

military confrontations.¹²⁴ Furthermore, such nature of their contentious issues has, combined with Beijing's recognition that its overall capabilities including military forces are superior to India, led China to make it clear that it does not consider India as a serious threat to its national security.¹²⁵

Thus, the nature of the overall China-India relationship, more specifically, the significant cooperative dimension of the bilateral relationship and the nature and structure of their contentious issues, make it unlikely that China and India will employ military force or threat of force, including nuclear weapons. Hence, the salience of the nuclear deterrence in the overall bilateral relationship has declined, and this has contributed to reining in nuclear-related risks.

(2) Lack of escalatory dynamics from sub-nuclear level

The circumstances surrounding the border dispute are worth further consideration from a military perspective. It appears that neither China nor India intends to use military force to significantly alter the status quo. Still, there is no doubt that each is engaged in a form of military competition through strengthening their defense postures and actively conducting reconnaissance activities on a day-to-day basis in the border areas.

With respect to the former, despite the widespread view that China's defense posture along the border region is far superior to India's, this, in fact, is not necessarily correct.¹²⁶ Although India suffered a crushing defeat in the Sino-Indian War of 1962, both countries have since deployed considerable mountain division assets near the border in order to deter movement by the other country.¹²⁷ Since the latter half of the 2000s, India has undertaken large-scale infrastructure development projects that enable swift deployment of units to the border region—something that China used to have a significant lead in.¹²⁸ Following on from the establishment of two mountain divisions in 2009, the Indian Army has established its first mountain strike corps tasked with offensive operations against Chinese territory, and, in 2016, approved a plan to raise a regiment that operates a new supersonic cruise missile designed for operation in the mountainous area in the state of Arunachal Pradesh.¹²⁹ In this state, India has developed multiple advanced landing grounds, and takeoffs and landings of the Su-30 MKI fighter are conducted.¹³⁰

Such Indian catch-up efforts have many delays, especially in infrastructure development, and are not necessarily making steady progress.¹³¹ That said, the mountainous terrain of the border region is inherently unsuited for the operation of armored forces and acts as a defensive advantage. Therefore, India today is able to hold out against China's offensive, and even if China were to achieve limited success in a conventional war, the prospects are low for such success to cause a

¹²⁴ Vipin Narang, *Policy Q&A: China-India Nuclear Relations* (The National Bureau of Asian Research, October 2014), p. 3, <https://www.nbr.org/publication/china-india-nuclear-relations/>.

¹²⁵ Haynes, "China's Nuclear Threat Perceptions," p. 42.

¹²⁶ Iskander Rehman, "A Himalayan Challenge: India's Conventional Deterrent and the Role of Special Operations Forces along the Sino-Indian Border," *Naval War College Review*, vol. 70, no. 1 (Winter 2017), p. 106.

¹²⁷ Narang, *Nuclear Strategy in the Modern Era*, p. 111.

¹²⁸ Rehman, "A Himalayan Challenge," p. 113.

¹²⁹ Brian Cloughley and Caron Natasha Tauro, "Expanding Forces Increase Risk of LAC Conflict," *Jane's Intelligence Review*, September 29, 2016.

¹³⁰ "India Increases Military Posture along Border with China," *Jane's Defence Weekly*, August 22, 2016.

¹³¹ Rehman, "A Himalayan Challenge," p. 113.

serious situation, enough to make India consider retaliation by nuclear first use.¹³² In short, nuclear escalation from conventional war is not considered a probable scenario.

With regard to the day-to-day reconnaissance activities in the border areas, there has been a surge in reciprocal border transgression as both countries harden their stances on the border dispute, which has led to a scattering of standoffs between the troops of both countries similar to those of April-May 2013 and September 2014.¹³³

On the other hand, China and India have agreed on a succession of confidence-building measures (CBMs), ranging from the “Agreement on the Maintenance of Peace and Tranquility along the Line of Actual Control” of 1993 to the Border Defense Cooperation Agreement (BDCA) of 2013. Such measures have given some rules and predictability to military activities along the border between the two countries.¹³⁴ As a result, escalation of competitive reconnaissance activities into accidental large-scale military clashes has been contained, and not a single bullet has been fired in the border region in the past 40 years.¹³⁵ This situation, too, makes nuclear war from escalation a more distant scenario.

The reduction of the escalation risk due to a stable balance of conventional forces along the border region, combined with the existence of CBMs, has also decreased the salience of the nuclear deterrence and reined in nuclear-related risks that should be manifesting from their militarily unstable deterrence relationship. Furthermore, their shared recognition that the probability of escalation into nuclear war is not high, and the fact that the reconnaissance activities — which can be regarded as a form of low-intensity actions to change the status quo — have been conducted under a set of rules generally embodied in CBMs, have likely contributed to reducing the nuclear-related risks in another indirect way.

The presence of nuclear weapons receives far more attention in the India-Pakistan rivalry than the China-India relationship because of the widespread belief in the “stability-instability paradox.” According to this proposition, Pakistan, the revisionist in this relationship, has intensified low-intensity actions to change the status quo, such as supporting terrorism and insurgency in India, leveraging its nuclear forces to deter India from exercising its superior conventional capability in retaliation.¹³⁶ In the India-Pakistan context, it is believed that Pakistan has been emboldened by nuclear deterrence and has intensified such actions to a level that was inconceivable before it had nuclear weapons.¹³⁷

In contrast, the discourse on the stability-instability paradox is strikingly absent in the

¹³² Narang, *Nuclear Strategy in the Modern Era*, pp. 111-112; Koithara, *Managing India's Nuclear Forces*, p. 201.

¹³³ Bajpae, “China-India,” pp. 112-113.

¹³⁴ Masahiro Kurita, “Chuin Kokkyo Mondai no Genjo,” pp. 61-64.

¹³⁵ “PM Modi: Not a Single Bullet Fired in 40 Years despite Border Dispute with China,” *Hindustan Times*, June 3, 2017, <http://www.hindustantimes.com/india-news/narendra-modi-not-a-single-bullet-fired-in-40-years-despite-border-dispute-with-china/story-H1gu1gs2vXAKTKB4InGAsJ.html>.

¹³⁶ Examples of the numerous discussions on this paradox include S. Paul Kapur, “Revisionist Ambitions, Conventional Capabilities, and Nuclear Instability: Why Nuclear South Asia is Not Like Cold War Europe,” in *Inside Nuclear South Asia*, ed. Scott D. Sagan (Stanford, CA: Stanford University Press, 2009), p. 186; Dinshaw Mistry, “Complexity of Deterrence among New Nuclear States: The India-Pakistan Case,” in *Complex Deterrence: Strategy in the Global Age*, eds. T.V. Paul, Patrick M. Morgan, and James J. Wirtz (Chicago: University of Chicago Press, 2009), pp. 187-188.

¹³⁷ Praveen Swami, *India, Pakistan and the Secret Jihad: The Covert War in Kashmir, 1974-2004* (New York: Routledge, 2007), p. 172.

context of the Sino-Indian rivalry, and this is not without reason. The assumption of the paradox, i.e., escalation of sub-nuclear level military clashes into nuclear confrontation, is not considered probable in China and India. Furthermore, while their competition in reconnaissance activities in the border areas as a form of attempts to alter the status quo has intensified, it has consistently been undertaken in a manner that largely conforms to the rules of CBMs. Consequently, even with such intensification of competition in reconnaissance activities in recent years, the assertion that links it with nuclear weapons and claims the stability-instability paradox is hardly endorsed in the China-India case.¹³⁸ In this regard as well, the salience of nuclear deterrence in the China-India rivalry has declined relative to the India-Pakistan case, and by extension, it has reined in nuclear-related risks.

(3) The political conception of nuclear weapons

Finally, it is necessary to give attention to the impacts of the prevailing views in the two countries regarding the nature of nuclear weapons.

Gaurav Kampani notes that China and India have the following points in common. First, their political leadership, which has the final decision-making authority on nuclear policy, has considered nuclear weapons as political weapons that are fundamentally different from conventional weapons. In other words, nuclear weapons with catastrophic destructive force have been considered not tools for fighting a war like conventional weapons but assets for deterring nuclear threats. Second, it has been construed that even small nuclear weapons and the prospect of assured retaliation can vacate nuclear threats from a stronger adversary. Third, the military that actually operates nuclear weapons has been greatly marginalized in the nuclear policy-making process, albeit it is gradually changing in recent years.¹³⁹

Due to such perceptions traditionally held by the political leadership and the marginalization of the military from nuclear policy-making, the militarily unstable situation of their nuclear deterrence relationship has not had significant implications in the nuclear policies of both countries. This, as a result, has eased the nuclear-related risks that should have arisen, since this type of risk basically emerges in purely military calculations in war-fighting which involves nuclear weapons. Moreover, because nuclear weapons are considered fundamentally different from conventional weapons, rigorous military considerations regarding the conventional force balance and a resultant arms race, even if they occur, are unlikely to cause Beijing and New Delhi to militarily elaborate their nuclear deterrence as part of the escalation ladder from conventional war and become strongly conscious of the lack of military stability in their nuclear deterrence equation.¹⁴⁰

The features of Chinese and Indian nuclear deterrence may be summarized as follows. Due

¹³⁸ Basrur, *India and China*, p. 7.

¹³⁹ Kampani, "China-India Nuclear Rivalry," pp. 6, 12.

¹⁴⁰ In the case of India, the separation between nuclear and conventional forces is exemplified by the fact that SFC, which has exclusive jurisdiction of nuclear forces, has few linkages with the Integrated Defence Staff that oversees the coordination of conventional forces, and effectively bypasses the conventional military's chain of command and directly interacts with the National Security Advisor under the Prime Minister's Office. Gaurav Kampani, "India's Evolving Civil-Military Institutions in an Operational Nuclear Context," *Regional Insight*, June 30, 2016, <http://carnegieendowment.org/2016/06/30/india-s-evolving-civil-military-institutions-inoperational-nuclear-context-pub-63910>.

to the significant asymmetry in their second strike capability, the China-India nuclear deterrence lacks stability from a purely military standpoint, and multiple nuclear-related risks are anticipated to manifest logically. In reality, however, such risks have been contained to a considerable extent. The following three factors are thought to contribute to this situation. First, the nature of the overall China-India relationship is not conducive to the use of military forces or threat of force. As a result, nuclear weapons, the ultimate form of military forces, have receded, and the salience of the nuclear deterrence has decreased in their overall relationship. Second, due to the stability of the balance of conventional forces in the border region and the consolidation of CBMs, escalation into nuclear war is not considered a highly probable scenario. Furthermore, because of this and the fact that their competitive reconnaissance activities in the border region are generally carried out in line with the rules set by CBMs, the discourse on the existence of the stability-instability paradox has not gained endorsement and the salience of the nuclear deterrence has again decreased. Third, in both countries, because the political leadership has considered nuclear weapons as political weapons different from conventional weapons, and the military has been marginalized from nuclear policy-making, the final nuclear policy has not been prone to reflect the recognition of the risks that should be emerging from the supposedly unstable situation of their nuclear deterrence relationship in military terms.

5. Future Outlook

Based on the above consideration, it can be said that the Sino-Indian relationship as a nuclear rivalry, leaving aside the lack of military stability, is in a relatively ideal situation compared with the relationship between the United States and the Soviet Union in the past and the current relationship between India and Pakistan, which is said to face a rapidly increasing risk of nuclear use. The question is: how sustainable is this China-India situation, particularly given that their nuclear deterrence lacks conditions for military stability?

Although the confrontational dimension of the China-India relationship has begun to stand out in recent years, it can be assumed that deterioration of their political relationship in the near future is hardly conceivable, at least to the extent that either country would consider using or threatening to use large-scale military forces that would give rise to the possibility of nuclear escalation, or would perceive that there is a realistic risk of the other country taking such actions. While the crisis stemming from the Bhutan-China border dispute in June-August 2017 in the Doklam highland appeared to be an unprecedented serious situation, its peaceful settlement demonstrated the resilience of the common understanding that use of military forces would be avoided. In this vein, with regard to the nuclear-related military risks outlined earlier, it remains inconceivable that China, in a superior position, would coerce India with an explicit threat of nuclear use, much less attempting to prevent India from securing second strike capability by launching a preventive war.

Attention should rather be paid to the factors that could increase the salience of nuclear deterrence in their overall relationship in a more indirect manner—namely, the possibility that the stability-instability paradox would be “discovered,” in other words, that the two countries would become conscious of the linkage between their lower-level competitive actions related to the border dispute and nuclear deterrence.

As was examined in the previous chapter, because reconnaissance activities as a form of such lower-level actions in the China-India border region have generally been conducted in line with

the rules set forth by a succession of CBMs, the view that the activities demonstrate the existence of the stability-instability paradox has not gained any endorsement. However, taking into account that such reconnaissance activities are being stepped up, and that the stability-instability paradox is a commonly accepted explanation of the adjacent relationship between India and Pakistan, it would not be surprising if either China or India comes to an understanding that the other country is exploiting the paradox.

According to rigorous military calculations, it remains unlikely that the paradox assumed in the India-Pakistan context would be seen in the China-India context—i.e., that the conventionally weaker side would intensify its low-intensity actions by leveraging its nuclear capability to deter the superior side from using conventional forces. There is little prospect for the balance of conventional forces to break down in the border region, to the extent that India, the inferior in this equation, would have to threaten China with nuclear first use in order to deter or stop China's conventional aggression. As for China, the paradox does not apply as it is superior to India in both nuclear and conventional forces. While the manner is slightly different, it is theoretically possible that China would engage in low-intensity actions to alter the status quo using its nuclear superiority as an implicit threat. However, this is also implausible in reality for the aforementioned reasons.

Nevertheless, what should be noted is that, even if this were the case according to strict logic, the linkage presented by the paradox discourse, more than its concrete mechanism, is becoming widely accepted in the present-day security debates. The linkage is that actions intended to change the status quo occur at the lower levels of the escalation ladder against the backdrop of nuclear deterrence. If situations not covered by existing rules become frequent occurrences, such as the standoff in Doklam, it is conceivable that either China or India would consider that the other country is intensifying its actions against the backdrop of nuclear deterrence in line with the paradox, regardless of whether this is linked with nuclear deterrence in the actual decision-making process of the other country.

It is easy to imagine that India, which already considers Pakistan's low-intensity violence as a manifestation of the paradox, would also interpret China's actions in the same context. Conversely, it would not be a surprise if China perceives that the increasingly hardened stance of India, which is acquiring its first credible nuclear deterrence capability against China by way of Agni-5, is a manifestation of the paradox. In either case, if the view is endorsed that lower-level actions of the other country are linked to nuclear deterrence capabilities, then this would no doubt increase the salience of the nuclear deterrence in their overall relationship.

There are two possible scenarios for such developments to lead to the manifestation of nuclear-related risks which have their origins in their militarily asymmetric nuclear deterrence situation. In the first case, India, becoming conscious of the linkage between China's lower-level actions to change the status quo and nuclear deterrence, becomes increasingly concerned about its own inadequacies in second strike capability. This situation leads to the issue of first strike instability and India seeking to rapidly catch up with China's nuclear forces, which could bring about an arms race. In the second scenario, China recognizes the linkage between India's lower-level actions and nuclear deterrence, and enhances its interest in the purely military situation of their nuclear deterrence. As a result, China aims to solve the paradox by acquiring capabilities to fight and win a nuclear war, escaping mutual assured destruction (MAD), similar to NATO during

the Cold War.¹⁴¹ In so doing, China aspires to achieve larger and more sophisticated nuclear forces. The second scenario can encapsulate the first case, resulting in India's catch-up and accompanying nuclear arms race, as well as the issue of first strike instability.

However, even in these scenarios, it is expected that the emergence of the nuclear-related risks would be hampered to some extent as long as the third factor noted in the previous chapter persists—in other words, as long as the political leadership in both countries considers nuclear weapons as political weapons and the military that operates nuclear weapons has limited influence. The reason is that both scenarios assume serious consideration is given to strict military calculations relating to nuclear exchange.

Under this assumption, whether or not the political nature of nuclear weapons will be maintained in China and India will become a critical variable that will shape the modality of their nuclear deterrence. Some scholars note that, while the political leadership has not changed their understanding of nuclear weapons significantly and still has a dominant position in nuclear policy-making, the military's influence is steadily rising in both China and India, which has led to an increase in purely military considerations in their nuclear policies.¹⁴²

It can be anticipated that this trend will be greatly influenced by two adjacent nuclear rivalries: the U.S.-China and India-Pakistan relations. The United States has spent tremendous efforts and resources in elaborating its nuclear deterrence militarily and has pursued nuclear war-fighting strategies. Pakistan, on the other hand, is said to be following Cold War nuclear strategies of the United States and NATO. In the course of the interactions with the two countries, China and India could very well shift their thinking on nuclear weapons. In this light, forecasting China-India nuclear rivalry also requires monitoring the moves of China and India in the two adjacent nuclear rivalries.

¹⁴¹ Examples of this concept being presented during the Cold War include William R. Van Cleave and Roger W. Barnett, "Strategic Adaptability," *Orbis*, vol. 18, no. 3 (Autumn 1974), pp. 655-676; Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960), pp. 558-559.

¹⁴² Kampani, "China-India Nuclear Rivalry," p. 6.