Cascades of Competition: Southern Asia, the Indo-Pacific, and AUKUS

Debak Das

Nuclear stability in Southern Asia is being shaped by different layers of competition in the Indo-Pacific. This article highlights two dynamics that are shaping nuclear competition in the region. The first, within Southern Asia, is states finding space to escalate at lower levels of conflict to address nuclear and military asymmetry. Pakistan is seeking to create space to escalate at lower levels of conflict against India, while India is doing the same against Pakistan on one side and China on the other. The second dynamic is a cascade of reactionary vertical proliferation that is occurring in the Indo-Pacific as a result of China and the United States' strategic competition. While Washington and Beijing are responding to each other's nuclear arsenals, India is responding to China's arsenal, and Pakistan is responding to India's nuclear modernization. The technology transfers and submarine proliferation in the Indo-Pacific precipitated by AUKUS are intensifying this dynamic.

Nuclear security in Southern Asia is at a crossroads. The two nuclear dyads in the region—India and Pakistan, and China and India—are on different trajectories. While the nuclear arms race between India and Pakistan has maintained the status quo despite occasional crises between the states, the competition between India and China has led to new doctrinal and structural changes in New Delhi's nuclear and conventional force postures. This shift is informed by two elements. The first is that the rise of China as a revisionist threat in the Indo-Pacific has precipitated the convergence of different multilateral constellations of states—aimed at checking Beijing—that include India. And second, and more importantly, China's recent territorial threat to India along the 4,057-kilometer-long disputed Line of Actual Control (LAC) has led to significant changes in India's conventional and nuclear forces.

There are two dynamics within the region that pose the biggest nuclear challenges to South Asia and the Indo-Pacific. The first, within Southern Asia, is the dynamic of states finding space to escalate at lower levels of conflict to address nuclear and military asymmetry. Pakistan is seeking to create space to escalate at lower levels of conflict against India, while India is doing the same against Pakistan on one side and China on the other. The second dynamic is a cascade effect of reactionary vertical proliferation that is occurring in the Indo-Pacific region. This second effect is a result of China and the United States' strategic competition leading to nuclear modernization and vertical proliferation. The United States is reacting to China's nuclear modernization, while China is increasing its nuclear forces to remain competitive with Washington. Meanwhile, the qualitative and quantitative increase in Chinese nuclear forces has led to an Indian response to shore up its second-strike capability and maintain a minimum deterrent against Beijing. Furthermore, Pakistan is, in turn, responding to India's force modernization by strengthening its own nuclear forces and creating new spaces of asymmetric escalation against India to ensure that New Delhi's modernization does not

leave Pakistan at a strategic disadvantage. Nuclear submarine and other advanced military technology transfer arrangements between Australia, the United Kingdom, and the United States (under the AUKUS agreement) have only added to this dynamic, with increased insecurity and uncertainty in the Indo-Pacific.

Creating New Spaces of Escalation: Doctrines and New Rocket Forces

Nuclear modernization in the India-Pakistan dyad has seen both sides seek to match the other at every level of the ladder of escalation. Pakistan's nuclear forces have about 170 nuclear warheads; air- and ground-launched cruise missiles; and a host of short-, medium-, and long-range ballistic missiles.[1] Its doctrine of "full-spectrum deterrence" accounts for the first use of short-range battlefield nuclear weapons—like the Hatf IX Nasr—against India's conventional forces in a limited battlefield scenario. For Pakistan, this doctrine has been aimed at addressing its conventional military asymmetry with India.

Pakistan's doctrine of full-spectrum deterrence seeks to ward off the possibility of conventional war with India. As Gen. Khalid Kidwai, one of the architects of the doctrine, stated: "Nasr, specifically, was born out of a compulsion of . . . some people on the other side toying with the idea of finding space for a conventional war, despite Pakistan's nuclear weapons."[2] Specifically, this doctrine has targeted India's ability to conduct conventional operations against Pakistan in response to lower-level—especially sub-conventional—escalation. Recent statements by Pakistani officials (including Gen. Kidwai) have led to concerns that Islamabad has now reduced the minimum range of its nuclear weapons to zero meters.[3] This means that beyond tactical nuclear weapons, Islamabad's nuclear arsenal might now include sub-kiloton nuclear projectiles like the Cold War–era Davy Crockett recoilless guns, or nuclear land mines that could either be detonated in place or travel very short distances.[4]

India has sought to match Islamabad with conventional and dual-use weapons at lower levels of escalation. New Delhi's steady development of counterforce weapons systems—which are responsive, accurate, and shorter-range—has led scholars to believe that India's "no first use" (NFU) doctrine may no longer apply to a conflict with Pakistan.[5] This belief stems from the perspective that counterforce weapon systems tend to be associated with first-use nuclear doctrines. India might be tempted to move toward a counterforce nuclear doctrine that could match Pakistan's potential use of battlefield nuclear weapons against conventional Indian forces. Such a strategy would aim to check Pakistan's ability to use tactical nuclear weapons, thereby creating a space for conventional Indian responses to sub-conventional attacks from Pakistan. During the 2019 India-Pakistan crisis, for example, India responded to a terror attack on its territory at Pulwama with a conventional air attack on Balakot in Pakistan. Speaking about the potential threat of Pakistani nuclear escalation in response to India's strike, Prime Minister Narendra Modi asked, "What do we have then? Have we kept our nuclear bombs for Diwali (the festival of lights)?"[6]

In May 2025, when India and Pakistan fought a near-war conflict for four days, it became clear that both sides believe that they have carved out space under the nuclear umbrella to conduct conventional operations against each other. India now considers its new doctrine to be one of assured conventional response against sub-conventional terror attacks on its territory. After the conflict ended, Prime Minister Modi stated that New Delhi would not "tolerate any nuclear blackmail," affirming that sub-nuclear conventional operations against Pakistan might be the new normal.[7]

India is increasingly demonstrating that it has two different strategies for its two nuclear competitors, and New Delhi's nuclear strategy toward China has been considerably different. This is not surprising given that in this nuclear dyad, India is at the weaker end of conventional military asymmetry. Recent border skirmishes between the two states along the LAC in the Himalayas have led to territorial and military losses for India. Since the violent clashes in the Galwan Valley in June 2020, New Delhi has lost at least

1 Hans M. Kristensen, Matt Korda, and Eliana Johns, "Pakistan Nuclear Weapons, 2023," *Bulletin of the Atomic Scientists* 79, no. 5 (September 3, 2023): 329–45, https://doi.org/10.1080/00963402.2023.2245260.

2 Carnegie Endowment for International Peace, "A Conversation with Gen. Khalid Kidwai," March 23, 2015, https://carnegieendowment.org/files/03-230315carnegieKIDWAI.pdf.

3 Sitara Noor, "Did Pakistan Just Overhaul Its Nuclear Doctrine?," *Foreign Policy*, September 16, 2024, https://foreignpolicy.com/2023/06/19/pakistan-india-nuclear-weapons-zero-range-cold-start-doctrine/.

4 Noor, "Did Pakistan Just Overhaul Its Nuclear Doctrine?"

5 Christopher Clary and Vipin Narang, "India's Counterforce Temptations: Strategic Dilemmas, Doctrine, and Capabilities," *International Security* 43, no. 3 (February 1, 2019): 7–52.

6 Narendra Modi, "Have We Kept Our Nuclear Bomb for Diwali, Asks Narendra Modi," *The Hindu*, April 21, 2019, https://www.thehindu.com/elections/lok-sabha-2019/have-we-kept-our-nuclear-bomb-for-diwali-asks-narendra-modi/article26905408.ece.

7 Nistula Hebbar, "PM Modi Address: India Won't Bend to Pakistan's Nuclear Blackmail; Operation Sindoor Is Still On," *The Hindu*, May 12, 2025, https://www.thehindu.com/news/national/india-will-not-tolerate-any-nuclear-blackmail-pm-modi/article69568386.ece.

twenty army troops in combat against the Chinese People's Liberation Army (PLA) forces, and has lost access to twenty-six of sixty-five patrolling points in Eastern Ladakh.[8]

Sino-Indian skirmishes along the LAC have continued intermittently since 2020, with the last major one in December 2022.[9] Despite India's military reinforcements at the LAC—with 50,000 additional troops deployed at the border since 2020—and plans to raise a new mountain division aimed at China, skirmishes continue to take place.[10]

To tackle the conventional military asymmetry against China, India is raising a new Integrated Rocket Force (IRF) aimed at creating space for conventional escalation against China.[11] The IRF will be a conventional missile force with short- and long-range cruise and ballistic missiles, and India's newly developed Pralay short-range (150–500km) ballistic missile is expected to be the mainstay of this force.[12] Using a rocket force dedicated to conventional military action will likely allow India space to militarily engage the PLA along the LAC without escalation to the nuclear level. This room for conventional escalation has become increasingly important given China's building of critical military infrastructure along the LAC, including a motorable bridge over Pangong Tso Lake, underground bunkers, and hardened shelters for armored vehicles.[13] Opening this space for conventional action by India will be central to its ability to deter and counter greater Chinese military action.

Key to this strategy is that both India and China have stated NFU policies. These policies have led to an expectation that any Sino-Indian confrontation at the conventional level would remain nonnuclear—assuming both sides conform to their stated nuclear doctrines. Scholars now doubt, however, whether either India or China would conform to their NFU pledges in time of war or crisis.[14] India's development of nuclear delivery capability suggests a hedging strategy that is aimed at maintaining strategic stability, continuing its overt commitment to its NFU pledge, and increasing its options to strike China if and when necessary.

India's recent nuclear modernization has increased its ability to target China's mainland; its Agni-V intermediate-range ballistic missile (IRBM) has a stated range of 5,000 kilometers.[15] In March 2024, New Delhi successfully tested MIRV (multiple independently targetable reentry vehicles) technology on an Agni-V missile. This technology is aimed at bolstering India's second-strike capability, and intended to hold Chinese cities at risk with an increased ability to penetrate Beijing's missile defenses.[16] India's developing MIRV capability is designed, therefore, to establish a secure mutual nuclear vulnerability with China. This approach will help its IRF operate at the conventional military level—an expected solidification of strategic stability that will thus create space for conventional crisis escalation.[17]

Proliferation Cascade: From the Indo-Pacific to Southern Asia

The United States' focus on competition with China in the Indo-Pacific has directly impacted nuclear stability in South Asia. While scholars previously suggested that a "strategic chain" connects Pakistan, India, China, and the United States, the relationship between these states today reflects more of a cascade

8 Vijaita Singh and Dinakar Peri, "India Has Lost Access to 26 out of 65 Patrolling Points in Eastern Ladakh, Says Research Paper," *The Hindu*, January 24, 2023, https://www.thehindu.com/news/national/india-has-lost-access-to-26-out-of-65-patrolling-points-in-eastern-ladakh-says-research-paper/article66428193.ece.

9 Sameer Lalwani, Daniel Markey, and Vikram Singh, "Another Clash on the India-China Border Underscores Risks of Militarization," United States Institute of Peace, December 20, 2022, https://www.usip.org/publications/2022/12/another-clash-india-china-border-underscores-risks-militarization.

10 Amrita Nayak Dutta, "Eye on Eastern Ladakh, New Army Division Likely to Be Raised This Year," *The Indian Express*, April 14, 2024, https://indianexpress.com/article/india/eye-on-eastern-ladakh-new-army-division-likely-to-be-raised-this-year-9268541/.

11 Pradip Sagar, "How Indian Military Is Planning 'Rocket Force' to Counter China's Aggression," *India Today*, April 18, 2023, https://www.indiatoday.in/india-today-insight/story/how-indian-military-is-planning-rocket-force-to-counter-chinas-aggression-2361607-2023-04-18.

12 Pradip Sagar, "How Indian Military Is Planning 'Rocket Force' to Counter China's Aggression."

13 Rezaul H. Laskar, "Images Show Chinese Bridge Across Pangong Lake in Use," *Hindustan Times*, July 30, 2024, https://www.hindustantimes.com/india-news/images-show-chinese-bridge-across-pangong-lake-in-use-101722279544093.html.

14 Caitlin Talmadge, Lisa Michelini, and Vipin Narang, "When Actions Speak Louder than Words: Adversary Perceptions of Nuclear No-First-Use Pledges," *International Security* 48, no. 4 (April 1, 2024): 7–46, https://doi.org/10.1162/isec_a_00482.

15 Press Trust of India, "India Test-Fires Agni-V Ballistic Missile Having Range of 5,000 Km," *The Wire*, December 15, 2022, https://thewire.in/security/india-test-fires-agni-v-ballistic-missile-having-range-of-5000-km.

16 Antoine Levesques, "India Shows Its Deterrent Holds Chinese Cities at Risk," International Institute for Strategic Studies, April 22, 2024, https://www.iiss.org/en/online-analysis/missile-dialogue-initiative/2024/04/india-shows-its-deterrent-holds-chinese-cities-at-risk/.

17 Debak Das, "How India's Restructured Rocket Force Makes Conflict with China More Likely," *Bulletin of the Atomic Scientists*, April 22, 2024, https://thebulletin.org/2024/04/how-indias-restructured-rocket-force-makes-conflict-with-china-more-likely/.

of reactionary vertical proliferation.[18] This dynamic is distinct from the Cold War–era nuclear arms race between the United States and the Soviet Union, and is closer to a system of "spillover effects" from the nuclear modernization of one state to another.[19] Indeed, it not clear that any of these states is aiming to attain nuclear superiority over the other. Rather, each is attempting to mitigate nuclear asymmetry and keep up with the force modernization of its adversaries.

This cascade has, at its start, the United States, which is currently modernizing its nuclear arsenal to address the two-peer nuclear threat posed by Russia and China.[20] Next, China is increasing its nuclear forces and building new intercontinental ballistic missile (ICBM) silos and nuclear submarines, seeking to address its nuclear asymmetry with the United States. Meanwhile, India's increasingly hostile relationship with China has led it to focus its nuclear modernization efforts to address its increasing asymmetry with Beijing's nuclear forces. Finally, India's qualitative and quantitative improvements to its nuclear forces are increasing perceptions of nuclear asymmetry with Pakistan, leading to Pakistan's nuclear force modernization and diversification in response.

In 2024, the United States announced that it has a stockpile of 3,748 nuclear warheads.[21] Additionally, the US is conducting a wide-ranging nuclear modernization program that includes new warhead designs and weapon types.[22] Competing with China is emerging as a critical pillar of the United States' nuclear strategy. More than 60 percent of the United States' ballistic missile submarine patrols occur in the Pacific and are aimed against China and North Korea.[23] Furthermore, the United States' 2023 bipartisan Strategic Posture Commission recommended that Washington increase the size and scope of its nuclear arsenal to "address the possibility that China will field large-scale, counterforce-capable missile forces that pose a threat to US strategic nuclear forces on par with the threat Russia poses to those forces today."[24]

Suggestions of an expanded US strategic and tactical nuclear arsenal, along with wide-ranging advancements in missile-defense capability, have had an effect on China, which has responded to the United States' strategic posture by significantly expanding its own nuclear forces.[25] A recent report shows that Beijing is in the process of building about 350 new ballistic missile silos alongside numerous new strategic nuclear delivery systems.[26] The total number of Chinese missile brigades has also increased. Beijing's expanding silo-based ICBM force will increase its second-strike retaliatory capability, and China is expected to possess around 1,000 warheads by 2030.[27] Additionally, China is developing more advanced nuclear-powered ballistic missile submarines (SSBNs), submarine-launched ballistic missiles (SLBMs), and road- and rail-mobile ICBM systems, and has already deployed MIRVs on its ballistic missiles.[28] According to military and diplomatic officials in Washington, this expansion of Chinese nuclear and missile arsenals might be with a view toward seeking qualitative and quantitative parity with the United States.[29] From Beijing's perspective, these developments are a result of the United States' overt characterization of its relationship with China as one of "competition."[30] For the immediate future, as China aims to keep up in its competition with the

18 Robert Einhorn and W. P. S. Sidhu, "The Strategic Chain: Linking Pakistan, India, China, and the United States," Arms Control and Proliferation Series, The Brookings Institution, March 2017, https://www.brookings.edu/articles/the-strategic-chain-linking-pakistan-india-china-and-the-united-states/.

19 Toby Dalton, "Plus Ça Change? Prospects of a Nuclear Deterrence Multipolarity in Southern Asia," *Journal for Peace and Nuclear Disarmament* 5, no. 2 (July 3, 2022): 250, https://doi.org/10.1080/25751654.2022.2158702.

20 C. Todd Lopez, "With Two Nuclear-Armed Strategic Competitors, US Modernization Top Priority," US Department of Defense, September 18, 2024, https://www.defense.gov/News/News-Stories/Article/Article/3910495/with-2-nuclear-armed-strategic-competitors-us-modernization-top-priority/.

21 National Nuclear Security Administration, "Transparency in the US Nuclear Weapons Stockpile," July 22, 2024, https://www.energy.gov/sites/default/files/2024-08/U.S.%20Nuclear%20Weapons%20Stockpile%20Transparency%207_22_24.pdf.

22 Hans M. Kristensen et al., "United States Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists* 80, no. 3 (2024): 182–208, https://doi.org/10.1080/00963402.2024.2339170.

23 Kristensen et al., "United States Nuclear Weapons, 2024," 194.

24 Strategic Posture Commission, "America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States," October 2023, viii, https://www.armed-services.senate.gov/download/americas-strategic-posture-the-final-report-of-the-congressional-commission-on-the-strategic-posture-of-the-united-states?download=1.

25 Henrik Stålhane Hiim, M. Taylor Fravel, and Magnus Langset Trøan, "The Dynamics of an Entangled Security Dilemma: China's Changing Nuclear Posture," *International Security* 47, no. 4 (January 4, 2023): 147.

26 Hans M. Kristensen et al., "Chinese Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists* 80, no. 1 (January 2, 2024): 49–72.

27 Hiim, Fravel, and Trøan, "The Dynamics of an Entangled Security Dilemma," 173.

28 Hiim, Fravel, and Trøan, "The Dynamics of an Entangled Security Dilemma," 173–75.

29 Hiim, Fravel, and Trøan, "The Dynamics of an Entangled Security Dilemma," 173–75.

30 Tong Zhao, "Political Drivers of China's Changing Nuclear Policy: Implications for US-China Nuclear Relations and International Security," *Carnegie Endowment for International Peace*, 72, https://carnegieendowment.org/research/2024/07/china-nuclear-buildup-political-drivers-united-states-relationship-international-security?lang=en.

United States, it is likely to continue with its nuclear force modernization and expansion.

China's nuclear and missile advancements have led to response from India. New Delhi's nuclear force development has been aimed toward addressing its asymmetry with China.[31] With most of its deployed nuclear force already able to target all of Pakistan, India's next generation of nuclear force development is aimed at mitigating the threat from Beijing. Its Agni family of land-based IRBMs—soon to be armed with MIRV-ed and MaRV (maneuverable reentry vehicle) warheads—is aimed at targeting different parts of China. While there has been no official confirmation on the next version of the missile, Agni VI, this version is expected to have a range of between 9,000 and 12,000 kilometers, with a three-ton nuclear payload.[32] Beyond the Chinese mainland, this missile will aim to give India the capacity to strike Chinese targets—aircraft carriers and SSBNs—in the central Pacific Ocean and the southern Indian Ocean.[33]

In addition to increasing the capabilities of its land-based ballistic missiles, India is also increasing its sea-based nuclear capability, with the aim of having a more secure and dispersed second-strike capability against China and building up a greater naval footprint in the Indo-Pacific. In August 2024, the second SSBN of New Delhi's nuclear triad, the INS *Arighaat*, was commissioned, substantially increasing India's nuclear strike capacity.[34] Along with India's first SSBN—the INS *Arihant*—the *Arighaat* now forms a strategic naval force that will likely conduct regular deterrence patrols in the Indo-Pacific. India is building three more SSBNs that will be larger than the first two.[35] Currently, India's two SSBNs are armed with the K-15 Sagarika SLBMs, which have a range of 750 kilometers, a short range that severely limits India's ability to strike China from the sea. To address this problem, India's next two SSBNs will be armed with the K-4 SLBMs, with a striking range of 3,500 kilometers, and the yet-unnamed fifth SSBN is expected to carry the 5,000-kilometer-range K-5 SLBM.[36]

Finally, India's nuclear force modernization and expansion of its nuclear forces has led to vertical proliferation in Pakistan. Pakistan is developing new delivery vehicles with the goal of seeking parity with India on the nuclear front, and its fissile materials and weapons arsenal are expected to continue growing.[37] Its development of diverse delivery systems seeks to ensure that if India does abandon the NFU vis-à-vis Pakistan, it will not be able to conduct a "splendid" first strike (that is, a strike in which all of Pakistan's nuclear weapons are attacked, thus nullifying Islamabad's ability to strike back). Pakistan's building of road-mobile transporter erector launchers (TELs) and sea-launched cruise and ballistic missiles is aimed at dispersing its nuclear force to counter any such possibility.[38]

Additionally, in keeping with the dynamic of creating space for low-scale nuclear escalation to deter conventional attacks as a part of its full-spectrum deterrence strategy, Pakistan has developed ground-, air-, and sea-launched nuclear-capable short-range cruise missiles.[39] Islamabad has also deployed tactical nuclear weapons (TNWs) in the form of the 60-kilometer-range Hatf IX Nasr ballistic missile. Pakistan's TNWs have been developed to counter India's "Cold Start" doctrine, which aimed to conduct proactive conventional military operations on Pakistani territory in response to sub-conventional attacks on Indian territory.[40] Through both its nuclear doctrine and its development of advanced nuclear-delivery systems, Pakistan has sought to ensure that it is able to compete with India's nuclear abilities, even if those capabilities may now be driven primarily by China's actions.

This cascade of proliferation results directly from the United States' competition with China. The more Washington centers the Indo-Pacific in its nuclear

31 Debak Das, "The State of Nuclear Instability in South Asia: India, Pakistan, and China," Lawfare, September 3, 2023, https://www.lawfaremedia.org/article/the-state-of-nuclear-instability-in-south-asia-india-pakistan-and-china.

32 Amartya Sinha, "How Nuclear Capable Agni-VI Missile Will Be a Force-Multiplier for India," *India Today*, August 29, 2023, https://www.indiatoday.in/india/story/agni-vi-missile-nuclear-capable-force-multiplier-for-india-2428231-2023-08-29; Girish Linganna, "Agni VI, ISRO and Radio Silence on India's 10,000 KM Range ICBM," *Financial Express*, November 17, 2022, https://www.financialexpress.com/business/defence-agni-vi-isro-and-radio-silence-on-indias-10000-km-range-icbm-2828572/.

33 Sinha, "How Nuclear Capable Agni-VI Missile Will Be a Force-Multiplier for India."

34 Amrita Nayak Dutta, "INS Arighaat Commissioned: Why a Second Nuclear Submarine Matters for India," *The Indian Express*, August 30, 2024, https://indianexpress.com/article/explained/ins-arighaat-commissioned-nuclear-sub-importance-9541813/.

35 Abhijit Singh, "Arighat Commissioning Revives Debate over 'No First Use' Policy," Observer Research Foundation, September 2, 2024, https://www.orfonline.org/research/arighat-commissioning-revives-debate-over-no-first-use-policy.

36 Singh, "Arighat Commissioning Revives Debate over 'No First Use' Policy."

37 Hans M. Kristensen and Matt Korda, "World Nuclear Forces," in *SIPRI Yearbook 2024: Armaments, Disarmament and International Security* (Stockholm, 2024), 332.

38 Kristensen, Korda, and Johns, "Pakistan Nuclear Weapons, 2023."

39 Kristensen and Korda, "World Nuclear Forces," 337.

40 Mansoor Ahmed, "Pakistan's Tactical Nuclear Weapons and Their Impact on Stability," Carnegie Endowment for International Peace, June 30, 2016, https://carnegieendowment.org/research/2016/06/pakistans-tactical-nuclear-weapons-and-their-impact-on-stability.

strategy, the more downstream effects there will likely be on other nuclear states, whether they are either directly in competition with the United States or with a rival that is also impacted by US nuclear strategy.

AUKUS and the Nuclearization of the Indo-Pacific

The United States has significant direct and indirect effects on the proliferation of nuclear and missile systems across the Indo-Pacific. Its AUKUS deal with the United Kingdom and Australia will give Canberra conventionally armed nuclear-powered attack submarines (SSNs) in service of a "free and open" Indo-Pacific. While Pillar One of AUKUS deals with nuclear submarines, Pillar Two provides for the United States to share key technology (related to hypersonic missiles, electronic warfare, artificial intelligence, and advanced cyber capabilities) with its allies.[41] This technology sharing, motivated by strategic competition with China, may lead to several downstream effects that are likely to intensify the risks of naval competition and proliferation in the Indo-Pacific and Southern Asia.

Consistent with the cascade dynamic, China will feel pressure to respond to AUKUS. Its Foreign Ministry has described the deal as a "wrong and dangerous path" that will "only motivate an arms race, damage the international nuclear nonproliferation regime, and harm regional stability and peace."[42] Of course, the AUKUS deal by itself will not lead to these outcomes. But China's response to AUKUS likely will. Beijing's new SSBNs—especially the Type 096—have made considerable qualitative technical advancements that make them a formidable change in the Indo-Pacific.[43] A proliferation of United States, United Kingdom, and Australian SSNs because of AUKUS in the Indo-Pacific might put China's six-boat SSBN force—and its second-strike capability—at risk. This dynamic could lead to a considerable increase in the number of Chinese SSNs and SSBNs developed over the next few years—a development that would, in turn, likely impact India's projected SSBN and SSN force.

India's commitment to the Indo-Pacific primarily focuses on its side of the western Indian Ocean and South Asia. However, it has a long-standing commitment to keeping the sea lines of communication free and open from the Gulf of Aden to the Straits of Malacca. Increased militarization of the Indo-Pacific via proliferation of nuclear submarines and other naval deployments by China—even if simply a response to AUKUS—will prompt India to develop its own naval capacity, and particularly, to consider an increase in its nuclear submarine force, specifically SSNs. Currently, India builds its own SSBNs but has leased out *Akula*-class SSNs from Russia intermittently since 1987. India plans on inducting one such leased SSN into its fleet by 2028 and is reportedly considering leasing a second submarine from Moscow as well.[44] In addition, in 2024, India announced that it has started a program to build its own indigenous SSNs. The first of these submarines is expected to be deployed by 2037 and will, crucially, lead to increased Indian independence in the field of naval force projection.[45]

Once all five of India's planned *Arihant*-class SSBNs are deployed and India moves toward a continuous-at-sea deterrence posture—as other navies with a similar force structure have—there will be a broader question of how this force operates and interacts with China's nuclear submarines and forces in a nuclear-crowded Indo-Pacific. Will the QUAD grouping (which includes India, Japan, Australia, and United States) coordinate their naval strategies and SSN deployments in the Indo-Pacific? How will the United States and its allies view India's use of leased-out Russian *Akula* submarines in the region?

Finally, an increased Indian naval force with nuclear submarines—both SSNs and SSBNs—is likely to threaten Pakistan's access to and freedom of navigation in the Arabian Sea and Indian Ocean. Islamabad has been developing the sea-leg of its nuclear forces and has developed a nuclear-capable Babur sea-launched cruise missile (SLCM) with a range of 450 kilometers to be deployed on its diesel-powered Agosta 90B submarines.[46] An increase in India's submarine forces

41 John Christianson, Sean Monaghan, and Di Cooke, "AUKUS Pillar Two: Advancing the Capabilities of the United States, United Kingdom, and Australia," CSIS Briefs, Center for Strategic & International Studies, July 10, 2023, https://www.csis.org/analysis/aukus-pillar-two-advancing-capabilities-united-states-united-kingdom-and-australia.

42 "China Says AUKUS on 'Dangerous Path' with Nuclear Subs Deal," AP News, March 14, 2023, https://apnews.com/article/china-aukus-nuclear-submarines-f6ecf854646e2dbddd6ebeaa2f2e971d.

43 Christopher P. Carlson and Howard Wang, "A Brief Technical History of PLAN Nuclear Submarines," China Maritime Report, China Maritime Studies Institute, US Naval War College, August 2023, https://digital-commons.usnwc.edu/cmsi-maritime-reports/30?utm_source=digital-commons.usnwc.edu%2Fcmsi-maritime-reports%2F30&utm_medium=PDF&utm_campaign=PDFCoverPages.

44 Sandeep Unnithan, "Why India Could Be Leasing a Second Nuclear Powered Attack Submarine from Russia," *India Today*, September 5, 2021, https://www.indiatoday.in/india-today-insight/story/why-india-is-leasing-a-second-nuclear-powered-attack-submarine-from-russia-1849277-2021-09-04.

45 Dinakar Peri, "Indigenous Nuclear Attack Submarine Design to Take 4–5 Years, Another Five Years for Construction," *The Hindu*, December 7, 2024, https://www.thehindu.com/news/national/indigenous-nuclear-attack-submarine-design-to-take-4-5-years-another-five-years-for-construction/article68959614.ece.

46 Shervin Taheran, "Pakistan Advances Sea Leg of Triad," Arms Control Association, 2018, https://www.armscontrol.org/act/2018-06/news-briefs/pakistan-advances-sea-leg-triad.

may prompt Pakistan to consider increasing its naval forces as well. Importantly, the AUKUS deal has set a precedent for China to lease or sell nuclear-powered attack submarines to Pakistan if both states decide to pursue that path. Given Beijing and Islamabad's long history of nuclear and missile cooperation—and common interest in checking India—this scenario could become more likely.

The United States needs to consider the downstream consequences of its Indo-Pacific nuclear strategy. Introducing more nuclear-powered submarines through other states and potentially deploying nuclear-armed cruise missiles on its own SSNs to enhance its ability to use tactical nuclear weapons in the Indo-Pacific will generate responses from its immediate nuclear competitors, whose responses will have their own effects on others.[47] This scenario might continue—and exacerbate—proliferation and modernization cascades across the Indo-Pacific region.

Conclusion

Analysts suggest that the Indo-Pacific is "at the cusp of a new missile age, driven by perceptions of rising insecurity."[48] If this is true, then the dynamics leading to this insecurity must be understood. There are three main drivers of proliferation and insecurity in South Asia and the Indo-Pacific: the dynamic of creating spaces of escalation under the shadow of nuclear weapons; proliferation cascades resulting from great power competition; and the risk of naval buildup precipitated by AUKUS.[49] Each of these drivers share underlying elements—reaction-driven vertical proliferation and modernization of nuclear weapons and their delivery systems—that amplify regional insecurity and must be addressed.

Thus far, competition has been the driving force behind United States–China tensions, intensifying the security dilemma between both states.[50] This dynamic is now generating spillover effects in other regions, like South Asia. From the United States' perspective, then, deemphasizing the nuclear aspect of its competition with China in the Indo-Pacific could have a stabilizing effect on the unfolding regional cascade of proliferation.

Central to nuclear delivery-system proliferation and modernization is the question of nuclear posture. The expansion of nuclear delivery systems in both China and India—with varying ranges, payloads, and accuracies—suggests that these states are reducing the threshold for the potential use of nuclear weapons and might each be tempted to abandon their NFU policies in the future.[51] Scholars have suggested that NFU policies might not hold much weight anyway—that is, they are "cheap talk" when it comes to a war or nuclear crisis.[52] So far, however, both China's and India's NFU policies have had greater weight because they are coupled with nuclear postures characterized by a lack of numerical and qualitative capacity to strike their adversaries first. These capacities are now changing, such that both China and India might possess first-strike capability soon. This development may tempt both states to abandon their NFU policies. If more first-use–oriented weapon systems are introduced in the Indo-Pacific, rather than states simply shoring up their second-strike capabilities, we might see more of a Cold War–type arms race dynamic among the region's nuclear weapons states.

Finally, given the proliferation of missile systems and nuclear submarines, there is growing risk of serious accidents and inadvertent escalation. During the Cold War, nuclear missile submarines collided with each other in the ocean, sometimes significantly damaging each other.[53] More recently, in 2009, two nuclear-armed SSBNs—the British *HMS Vanguard* and the French *Le Triomphant*—collided deep in the Atlantic Ocean.[54] A greater number of SSNs and SSBNs in the Indo-Pacific will only raise the likelihood of such accidents. On the missile front, in 2022, India accidentally fired a supersonic BrahMos cruise missile into Pakistan.[55] The missile was not armed, and a major escalation was averted, but the

47 Gabriel Honrada, "US Mulls Nuke Cruise Missiles on Subs to Deter China," *Asia Times*, May 28, 2024, http://asiatimes.com/2024/05/us-mulls-nuke-cruise-missiles-on-subs-to-deter-china/.

48 Ankit Panda, *Indo-Pacific Missile Arsenals: Avoiding Spirals and Mitigating Escalation Risks* (Carnegie Endowment for International Peace, 2023), 1.

49 This article focused on the strategic threats that are driving force modernization in South Asia, but other preexisting political factors like domestic politics and bureaucratic bargaining also play a role.

50 Lili Pike, "How Does the US-China 'Cold War' End?" *Foreign Policy,* September 24, 2024, https://foreignpolicy.com/2024/09/19/republican-gop-china-policy-cold-war-regime-change-competition/.

51 Clary and Narang, "India's Counterforce Temptations."

52 Talmadge, Michelini, and Narang, "When Actions Speak Louder than Words."

53 "CIA Memo Confirms Nuclear Sub Crash," BBC News, January 25, 2017, https://www.bbc.com/news/uk-scotland-38744322.

54 Richard Norton-Taylor, "Two Subs, Dozens of Nuclear Warheads, One Huge Ocean—and a Stroke of Bad Luck," *The Guardian*, February 17, 2009, https://www.theguardian.com/uk/2009/feb/17/nuclear-submarine-collision.

55 Snehesh Alex Philip, "Accidentally Fired Missile into Pakistan due to Tech Glitch, Says India. 'It Was BrahMos,'" The Print, March 11, 2022, https://theprint.in/defence/accidentally-fired-missile-into-pakistan-due-to-tech-glitch-says-india-it-was-brahmos/869387/.

incident highlighted the risks of inadvertent escalation among nuclear adversaries, emphasizing the need to have better missile safety management and crisis communication. Widespread missile proliferation in the Indo-Pacific and South Asia is therefore another area where mechanisms will be needed to mitigate the risks of rising insecurity.

Debak Das *is an assistant professor at the Josef Korbel School of Global and Public Affairs at the University of Denver. His research interests lie at the intersection of international security, nuclear proliferation, crises, and international history. Debak received his PhD in government from Cornell University in 2021. He is also an affiliate at the Center for International Security and Cooperation (CISAC) at Stanford University; the Centre de Recherche Internationales (CERI) at Sciences Po, Paris; and the Council for Strategic and Defense Research, New Delhi.*

Acknowledgments: *I am very grateful to Chiara Cervasio, Rohan Mukherjee, Lauren Sukin, participants of the conference on "US Nuclear Strategy in a Changing Indo Pacific" held at the London School of Economics and Political Science, and the editors and anonymous reviewers at TNSR for their detailed feedback and helpful comments on earlier versions of this article.*