

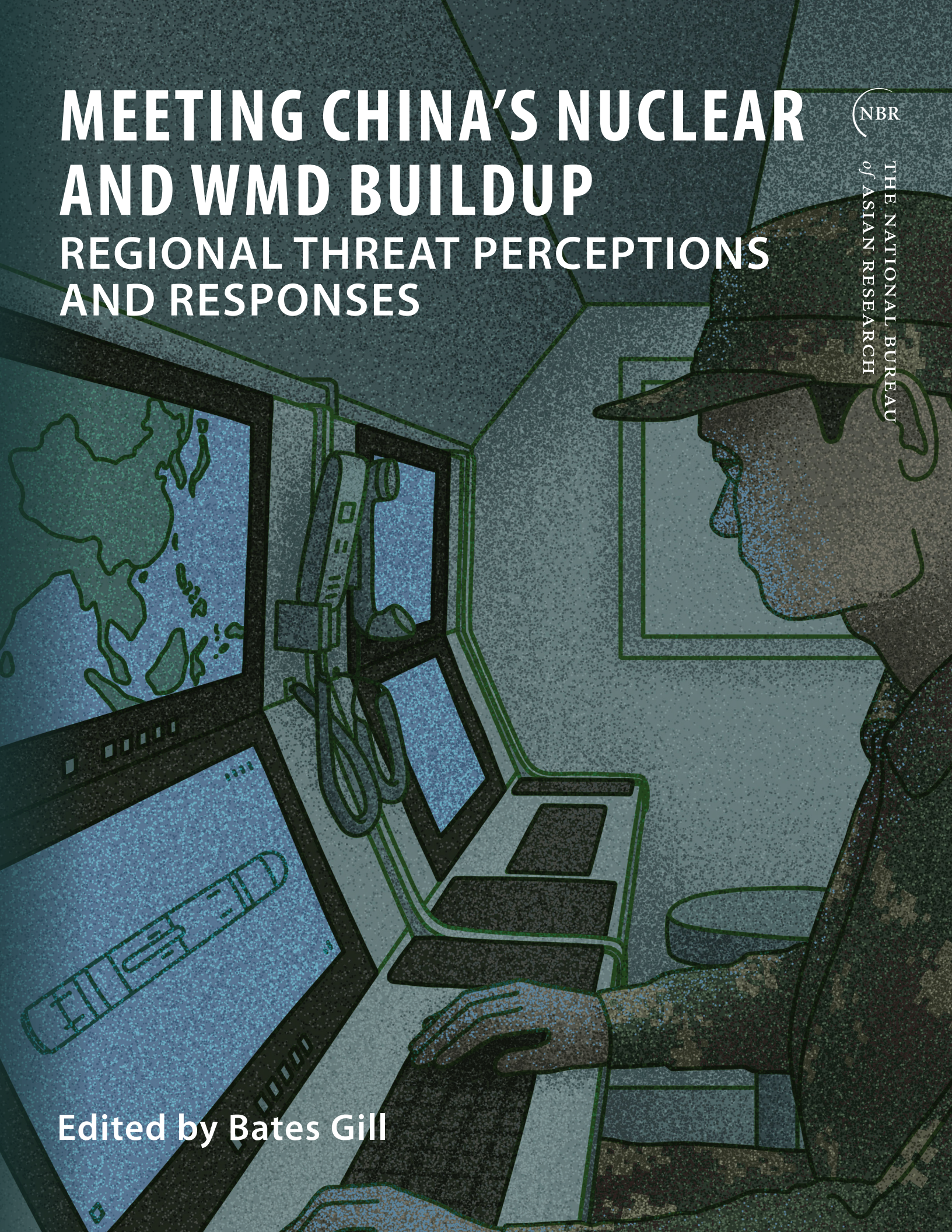
MEETING CHINA'S NUCLEAR AND WMD BUILDUP

REGIONAL THREAT PERCEPTIONS AND RESPONSES

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Edited by Bates Gill



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Regional Threat Perceptions and Responses

Edited by
Bates Gill

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Regional Threat Perceptions and Responses

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THE NATIONAL BUREAU *of* ASIAN RESEARCH

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Introduction: Meeting the Challenge of China's WMD Buildup

Bates Gill

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Stating that the People’s Republic of China (PRC, or China) is “America’s most consequential geopolitical challenge” and “most consequential strategic competitor for the coming decades,” the 2022 U.S. National Security Strategy (NSS) and U.S. National Defense Strategy (NDS) made clear that deterring aggression by the PRC is a vital interest of the United States.¹ According to the NDS, China seeks to “refashion the Indo-Pacific region and the international system to suit its interests and authoritarian preferences” and aims to “undermine U.S. alliances and security partnerships in the Indo-Pacific region, and leverage its growing capabilities, including its economic influence and the People’s Liberation Army’s (PLA) growing strength and military footprint, to coerce its neighbors and threaten their interests.”² Based on this assessment, the NSS finds that the United States’ “defense strategy must sustain and strengthen deterrence, with the PRC as our pacing challenge.”³

China’s ongoing military buildup undoubtedly presents complicated and worrisome challenges for the United States and its armed forces, especially in the Indo-Pacific. Of particular concern in recent years—and the subject of this report—China’s investments in its nuclear arsenal and possibly other WMD-related technologies pose new and vexing questions about U.S. deterrence strategies, extended deterrence commitments, conventional capabilities, and maintaining solidarity with regional treaty allies and other partners.

On the positive side, the United States is not alone in facing these challenges and shares many of the same security concerns with others in the region. Importantly, countries across the Indo-Pacific—including U.S. allies and security partners such as Australia, India, Japan, the Republic of Korea, the Philippines, Taiwan, and Vietnam—can agree in principle on the need to confront China’s increasing coercive, deterrent, and warfighting capabilities. On the other hand, however, it is difficult in practice to introduce more effective collaborative measures, bilaterally and particularly multilaterally, that can deflect and deter the most threatening elements of the PRC’s military buildup. As a result, the United States—working with regional allies and partners—needs to build not only a deeper shared awareness of the security threats China presents but also a stronger regional consensus on how countries can cooperate with one another to counter them.

To help advance this aim, the National Bureau of Asian Research (NBR), with support from the Defense Threat Reduction Agency (DTRA) Strategic Trends Research Initiative, in 2020 initiated an innovative Track 1.5 research and strategic dialogue project under the title “Meeting China’s Military Challenge: Identifying Collective Responses among U.S. Allies and Security Partners in the Indo-Pacific Region.” Through commissioned research and dialogue activities, the project engaged experts and government officials from a mix of regional allies and security partners with differing security environments, military capabilities, and relations with China, with a focus on Australia, India, Japan, the Philippines, Taiwan, and Vietnam.

In year one, the project delivered in-depth research, dialogue, and analysis regarding China’s most threatening conventional deterrent, coercive, and warfighting capabilities; their effect on U.S. allies and security partners; and policy options for these governments to partner with the

¹ White House, *National Security Strategy* (Washington, D.C., October 2022), 11, <https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf>; and U.S. Department of Defense, *National Defense Strategy of the United States of America* (Washington, D.C., October 2022), iii, <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF>.

² U.S. Department of Defense, *National Defense Strategy of the United States of America*, 4.

³ White House, *National Security Strategy*, 22.

United States to effectively counter these challenges. This work was presented in an NBR Special Report released in early 2022.⁴

In its second year, the project brought together senior experts and government officials from the United States and the same six Indo-Pacific countries—Australia, India, Japan, the Philippines, Taiwan, and Vietnam—to focus on China’s advanced conventional technologies, including cyber, space, and autonomous weapons systems. The expert discussions in this phase considered specific scenarios in which the PRC has employed and likely will employ these capabilities against U.S. allies and security partners in the region; the military policies and operational capabilities that have been employed in response by U.S. allies and security partners in the region; and specific mechanisms that should be considered for Indo-Pacific governments, in partnership with the United States or among themselves, to counter these PRC threats. The findings were published in an NBR Special Report in late 2022.⁵

In year three, the project focused on China’s nuclear weapons and other WMD capabilities by addressing the following key questions:

- What specific PRC nuclear or other WMD-related systems present the most credible deterrent, coercive, and warfighting threats?
- In addition to potential direct threats from PRC nuclear or other WMD-related systems, what indirect threats arise from these systems?
- What specific scenarios are likely for the PRC’s use of nuclear and other WMD-related deterrent, coercive, and warfighting threats?
- What specific military policies and operational capabilities have been employed in response?
- What specific mechanisms could the United States and its regional partners employ to effectively counter these PRC nuclear or other WMD-related threats?

To address these questions, and following the model of the previous two years, the project combined commissioned research papers and strategic dialogue exchanges to engage experts and government officials from the United States alongside those from the six Indo-Pacific countries noted above. The commissioned research was repeatedly interrogated and sharpened through constructive feedback and criticism over the course of the project. This feedback was provided by NBR project leads and DTRA project sponsors, as well as by outside experts and government officials taking part in a virtual workshop held in March 2023 and an in-person, two-day Track 1.5 strategic dialogue in Washington, D.C., in June 2023, where the commissioned research papers served to frame and catalyze discussions. Coming out of this process, this introduction presents the project’s findings and policy implications, followed by the detailed commissioned studies by the six country experts involved in this iteration of the project.

On behalf of NBR, I wish to convey many thanks and great appreciation to the following individuals whose insights and expertise drove the project’s discussions, shaped its findings and policy implications, and ensured its success: Herman Joseph S. Kraft of the University of the Philippines Diliman, Lavina Lee of Macquarie University, Wakana Mukai of Asia University,

⁴ Bates Gill, ed., “Meeting China’s Military Challenge: Collective Responses of U.S. Allies and Security Partners,” National Bureau of Asian Research, NBR Special Report, no. 96, January 2022, <https://www.nbr.org/publication/meeting-chinas-military-challenge-collective-responses-of-u-s-allies-and-partners>.

⁵ Bates Gill, ed., “Meeting China’s Emerging Capabilities: Countering Advances in Cyber, Space, and Autonomous Systems,” NBR, NBR Special Report, no. 103, December 2022, <https://www.nbr.org/publication/meeting-chinas-emerging-capabilities-countering-advances-in-cyber-space-and-autonomous-systems>.

Rajeswari Pillai Rajagopalan of the Observer Research Foundation, Jyh-Shyang Sheu of the Institute for National Defense and Security Research, and Khang X. Vu of Boston College.

The following pages of this introductory essay summarize the project's year-three findings under six principal themes that arose from the commissioned research, workshop discussions, and strategic dialogue sessions. This essay will also present a detailed set of actionable policy options for the United States that flow from the project's research, analysis, and key findings. Readers seeking more detailed country-by-country analysis and policy implications are encouraged to delve into the specific country studies—on Australia, India, Japan, the Philippines, Taiwan, and Vietnam—that make up the remainder of this study.

Key Project Findings

Deepening of Regional Concern over the PRC's Nuclear Buildup

Across the six countries represented in this project, political leaders and strategic analysts increasingly recognize with concern the rapid buildup of PRC nuclear forces. However, as discussed below, these concerns can vary widely from one country to another. Assessments from India, Japan, Taiwan, and Australia expressed the strongest concerns about China's expanding nuclear arsenal, the threat it poses, and the growing potential for its use.

While the pursuit of nuclear weapons by *India* was not driven primarily by PRC nuclear threats at first, China's current massive expansion of its nuclear forces—especially its growing land-based, long-range missile force—could pose serious concerns for India in the future. If China were to seek greater nuclear parity with the United States and deploy an arsenal of several thousand warheads, it could greatly complicate India's strategic calculus of minimum deterrence, introducing a greater degree of Chinese nuclear coercion into Sino-Indian disputes and driving a call for India to rethink its no-first-use (NFU) policy.

For *Japan*, the qualitative and quantitative expansion and diversification of the PRC's nuclear forces raise particular concerns for national security. Most alarming are the superior numbers of China's nuclear-capable intermediate-range and short-range ballistic missiles in comparison with the United States, which could be used to target U.S. bases on Japanese soil. China's introduction of the DF-17 ballistic missile, capable of carrying a nuclear-armed hypersonic glide vehicle, would likely be invulnerable to Japanese and U.S. missile defense systems.

In the past, PRC nuclear threats were not taken as seriously by *Taiwan*. This point of view—and the concomitant emphasis in Taiwan on conventional deterrent capabilities—arose in large measure because of an expected U.S. extended deterrence guarantee during the period of Taiwan's alliance with the United States (1954–78), U.S. pressures to stop Taiwan's nuclear weapons program in the 1970s and 1980s, and a confidence in China's NFU pledges. Today, China's more fervent nationalism, the quantitative and qualitative increase in its nuclear forces, and the country's growing ability to threaten and use nuclear weapons more flexibly combine to gradually increase the possibility that the PRC could employ nuclear weapons in a Taiwan scenario, especially for tactical purposes. This might include the use of low-yield weapons to destroy key command, control, and logistics nodes or to break the will of the Taiwan people to resist a forcible takeover of the island.

Advances in China's nuclear weapons modernization are likewise viewed with growing concern in *Australia*. In 2023, without naming China, the Australian government made a rare

and explicit expression of the threat of nuclear war: “In our current strategic circumstances, the risk of nuclear escalation must be regarded as real.”⁶ China’s more diverse and powerful nuclear weapons capabilities mean that Australian military facilities in northern parts of the country are well within range of the PRC’s nuclear-capable intermediate-range ballistic missiles (such as the DF-26) or H-6K bombers and that Chinese intercontinental ballistic missiles with ranges between 8,000 and 9,000 kilometers (approximately 5,000 to 6,000 miles) can target the entire Australian mainland. Relying on U.S. extended deterrence guarantees, Australia has no independent means to defend against such attacks.

Indirect Threats of the PRC’s Nuclear Buildup Looming Larger

The project’s commissioned research and dialogue discussions highlighted three important indirect threats arising from China’s burgeoning nuclear arsenal. These are an increased potential for conventional conflict owing to the “stability-instability paradox,” an increased possibility of a conventional attack by the PRC against certain neighboring countries in the event of a U.S.-China conflict, and increased concerns over China’s ability to deter the United States and undermine its defense commitments in the region, including extended deterrence guarantees.

All the dialogue participants raised concerns about the increased likelihood of conventional war in the region as a result of the stability-instability paradox. Under this dynamic, the attainment of strategic stability at the level of all-out nuclear war may increase the willingness of nuclear powers to engage in intensive conventional hostilities below the nuclear threshold. Put another way, if China believes it can deter the United States’ use of nuclear weapons, it could believe that it can “safely” initiate a conventional conflict, without fear of escalation to nuclear use.

Taiwan might be at greatest risk from these indirect threats. If the stability-instability dynamic holds, China could gain greater confidence over time to use conventional force to compel unification with the mainland. In such a scenario, Taiwan would bear the brunt of PRC conventional attacks. Moreover, from a Taiwanese perspective, the extent of U.S. commitments to the island’s defense remains unclear, underscoring a constant fear over China’s ability to deter the United States at conventional and nuclear levels.

The indirect threats of China’s nuclear buildup stand out for *Australia* as well. Australia-based facilities, such as Pine Gap and other signals intelligence sites, play a critical role for U.S. and allied defense capabilities. Looking ahead, U.S.-Australia defense cooperation in Australia will likely expand, including possible operational basing of B-52 bombers, potential deployment of land-based intermediate-range missiles, and the use of U.S.-built, Australian-crewed nuclear-propelled attack submarines as part of the agreements reached under the Australia–United Kingdom–United States (AUKUS) pact. These developments mean that Australian sites could be targeted for an attack in the event of a U.S.-China conflict. At the same time, however, while Australian official statements assume that the country is covered by U.S. extended nuclear deterrence, this commitment has not been clearly acknowledged in public bilateral statements, and there is no publicly declared understanding of the extent of those extended deterrence guarantees.

Two other U.S. allies in the region, the *Philippines* and *Japan*, share similar concerns about the indirect threats posed by China’s nuclear buildup. Leaders and strategists in these countries recognize an increasing probability of conventional conflict in the region and understand that their

⁶ Australian Government, *National Defence: Defence Strategic Review 2023* (Canberra, 2023), 38, <https://www.defence.gov.au/about/reviews-inquiries/defence-strategic-review>.

alliances with the United States puts their territories at risk. For the Philippines, the conclusion of the Enhanced Defense Cooperation Agreement (EDCA) with the United States in 2014 and the subsequent identification of nine Philippine sites to host U.S. forces on a rotational basis have revived discussions about the country becoming a target for a conventional attack, especially in the case of a conflict over Taiwan or in the South China Sea. Moreover, according to the project's research contributions and discussions, Manila has never sought detailed discussions with Washington on the nature of the U.S. extended deterrence guarantee; instead, these commitments have been largely assumed rather than specifically planned.

As the host of the largest U.S. military presence in Asia, Japan has long understood that it could be the target of attacks if the United States is involved in a conflict in the region. Such a scenario is even more likely today as Japan develops a greater offensive strike capability of its own. The project's Japanese contributors frequently raised concerns over the reliability of U.S. extended deterrence guarantees, especially given China's significant advances in the development of its nuclear forces.

India also faces indirect threats from the PRC's nuclear weapons modernization. To start, India could face its own stability-instability paradox, whereby China is emboldened to take more aggressive action in the conventional realm to assert its claims to territory along the Sino-Indian border. In addition, India faces indirect threats from the PRC's support for Pakistan's nuclear weapons and ballistic missile programs.

As these findings show, while all the region-based experts involved in the project expressed concern about the PRC's growing WMD capabilities, they did not perceive Chinese WMD threats in the same way. Most tended to downplay the likelihood of a direct first-use nuclear or other WMD attack by the PRC under most circumstances. Because this finding directly impinges on questions of conflict, deterrence, and U.S. reliability, it merits additional exploration and discussion at a future dialogue.

The Emerging Challenge of "Selling Deterrence"

As the challenging implications of China's nuclear buildup increase, so too do the challenges of marshaling a response. The project's discussions and written contributions revealed frictions within some countries between the recognition of China's growing nuclear (and possibly other WMD) capabilities, on the one hand, and the political and diplomatic limitations that constrain deterrent responses, on the other. These constraints include political reluctance among national leaders to prepare their citizens for the policy changes and potential sacrifices that may come with confronting a more threat-laden future, including the risks of nuclear tensions, escalation, and potential use. On the diplomatic front, governments in the region are often careful to avoid the impression that their defense policies aim to deter China.

In *Vietnam*, the leadership appears divided on how to respond to the security risks China presents. As a result, Hanoi is reticent to speak out about these threats and avoids significantly closer security and defense relations with major outside powers, especially the United States, for fear of Chinese (and Russian) reactions. In the words of a Vietnamese participant in the project, "for Hanoi, maintaining a stable relationship with China is more important than upgrading its relationship with the United States." *India*, too, for domestic and diplomatic reasons, avoids openly drawing attention to the advances in China's nuclear weapons program and other China-related security challenges, though they raise new and difficult questions for Indian security.

Even among U.S. treaty allies, which by and large align with the United States regarding China policy, “selling deterrence” can be a problem. As the *Philippines* rejuvenates its security ties with the United States, debates in the country have re-emerged about the need to appear outwardly “neutral” and “quiet” vis-à-vis the U.S.-China rivalry, especially over the Taiwan question, so that these issues do not become larger political problems for Manila in its relations with Beijing. Plans to expand the U.S. military deterrent footprint in the Philippines, including troops, armaments, and support facilities, will likely spark some difficult domestic debates over the military and political risks they entail.

Japan faces both similar and unique contradictions. While Tokyo welcomed the establishment of the U.S.-Japan Extended Deterrence Dialogue in 2010 and relies on the United States’ continuing commitment to a nuclear umbrella for Japan, these arrangements create a political dilemma. As the only country to suffer the devastation of a nuclear attack, Japan has long promoted the complete elimination of nuclear weapons. But at the same time, the country greatly benefits from U.S. extended nuclear deterrence guarantees. Hence, Tokyo must perform a delicate and difficult balancing act: demanding that nuclear weapons never be used again while at the same time relying on nuclear deterrence guarantees from the United States, which are only credible if nuclear weapons can be used. In a more extreme situation, if the United States were to deliberately use nuclear weapons in a crisis involving Japan, Tokyo would face the hugely difficult political choice of either being involved in consultations about nuclear weapons use or avoiding such consultations altogether.

In *Australia*, there is broad political support across the major political parties and within the society at large for strengthening security ties with the United States, including through the development of a stronger deterrence-by-denial capability for Australia. However, as the project’s discussions revealed, it is unclear where the public debate in Australia would turn if the likelihood of conflict with China were to significantly increase, especially given the lack of public awareness of how the Australian homeland would be at risk or how a conventional conflict could escalate to a nuclear exchange. Australia has yet to have the kinds of difficult public debates prevalent in Western Europe during the Cold War about the implications of extended deterrence, strategic missile defenses, and the possibilities of nuclear weapons use.

To quote a project participant, a “head in the sand” mindset prevails in many Indo-Pacific countries when facing the realities of the deterrent dynamic between the United States and China and its implications for regional security and the prospects for the use of WMDs. Beijing will aim to exacerbate these tensions within and among U.S. allies and security partners in the Indo-Pacific.

Concerns with the PRC’s Potential Use of Other WMDs

Most of the project’s commissioned research and deliberations in year three focused on the PRC’s deterrent, coercive, and warfighting capabilities related to nuclear weapons and their impact on the security of individual countries in the Indo-Pacific as well as on the collective security of the region as a whole. However, the project also considered China’s deterrent, coercive, and warfighting capabilities in relation to other forms of WMDs, such as biological, chemical, and radiological weapons. Contributions to the dialogue from Taiwan and Vietnam both referenced the possibility of biological weapons use by China if it engages in confrontation and conflict with those countries.

As noted above, while leaders and strategists in *Taiwan* remain primarily concerned with the use of conventional force by China, the salience of the PRC's nuclear weapons for the island's security has increased substantially in recent years. Taiwan planners are also aware of China's technological capacity to develop and deploy biological and chemical weapons if it were to choose to do so. It is possible, for example, that China could consider the tactical use of biological agents as a "gray zone" action for sabotage or to sow chaos within Taiwanese society at a time of extremely high tensions or conflict.

The commissioned research on *Vietnam*, in particular, outlined a detailed but highly provisional scenario for China's possible use of biological agents against Vietnam. For the purposes of this scenario, it was assumed that Vietnam had made a clear choice to ally closely with an "external great power" such as the United States to balance against China; China possesses a clandestine biological weapons program; the growing ease, low production costs, disruptive effects, and high degree of indistinguishability of such an attack from a natural outbreak increase its likelihood; Vietnam continues to lack an effective biodefense capability; and such an attack would complement, not substitute for, PRC conventional military coercion or use of force to ensure Vietnamese neutrality. According to this scenario, the goal of a biological weapons attack by China would be political and coercive—calculated not to destroy Vietnam but rather to compel it to return to a more neutral posture in its relations with China. Chinese actions could include a compellence-by-denial attack targeting Vietnamese military units in order to gain a tactical advantage for the use of conventional force; a compellence-by-denial attack at the operational level to disrupt logistics and resupply centers, military installations, and command facilities; and a compellence-by-punishment attack targeting the wider population to disrupt economic activity, divert resources, and undermine political and social resilience.

Vexing Implications for the U.S.-PRC Deterrence Dynamic

The commissioned research and dialogue discussions for this project, when combined with findings from the related NBR research and dialogue projects conducted over 2020–22, reveal a number of critical and often troubling insights about the deterrent dynamic between the United States and China, especially with regard to WMDs. In particular, the PRC's emergent advances across multiple and increasingly integrated domains—including in aerospace (missilery), outer space, cyberspace, autonomous weapon systems, and WMDs—have serious implications for the country's approach to deterrence and the possible threat or use of WMDs, especially nuclear weapons.

A number of important points deserve greater attention in relation to China's WMD development and the U.S.-China deterrence dynamic. First, China's expanding and diversifying capabilities across these domains have led to significant improvements in the country's nuclear weapons arsenal: improved targeting, better early-warning capabilities, improved air defenses, and, through the development and deployment of a nuclear-armed hypersonic vehicle, an increased confidence in the penetrability of its nuclear warheads. These advances may permit China to reinterpret its NFU pledge, including the possibility of a "launch on warning" posture, or to abandon its NFU policy entirely. In addition, the PRC's increasing reliance on space- and cyber-related assets in support of its nuclear weapons may mean that attacks on those systems would trigger an escalatory response if Beijing believes they are intended to degrade its nuclear deterrent.

Second, if China aims to integrate greater cyber resiliency, autonomous capabilities, and artificial intelligence into its WMD arsenal and supporting infrastructure, this could result in an increased level of confidence among political and military decision-makers as to adversary perceptions and intentions, assessment of incoming threats, and targeting and launch options. Under these circumstances, the possibility of poorly informed overreach and miscalculation could increase, including unnecessary and potentially destabilizing escalation to nuclear threats and use.

Third, and related to the second point above, greater confidence on the part of China that it can deter the United States at the nuclear level could in turn lead it to escalate conventionally in a conflict with U.S. or allied forces. In such a scenario, the PRC could be more willing to risk and engage in military conflict with the United States, especially around China's immediate periphery where it can leverage the benefits of geographic proximity, concentration of fire, and relatively secure resupply.

Fourth, these important developments related to the PRC's WMDs, and particularly nuclear, arsenal raise concerns for U.S. allies and other security partners about China's ability to test the United States' resolve, undermine the reliability of U.S. extended deterrence guarantees, and ultimately deter the United States from more forceful action at both the conventional and nuclear levels. Critically, the project's deliberations underscore the possibility that the PRC's increasing ability to integrate capabilities across the realms of aerospace, outer space, cyberspace, artificial intelligence, autonomous weapon systems, and WMDs might even lower the threshold of WMD use by China, either deliberately or by miscalculation. This could place greater pressures on U.S. deterrence guarantees in the region and—rightly or wrongly—increase doubts among allies and partners about the steadfastness of U.S. defense commitments.

Finally, analysts in the United States and the region still struggle to understand with sufficient precision how these developments have affected Beijing's appetite for risk and escalation, its deterrence calculus, and its potential for threatening the use of or using WMDs. Persistent and troubling ambiguities related to the PRC's nuclear arsenal include its dual-capable or "hot-swappable" delivery systems, the close co-location of conventional and nuclear missiles, and potential erosion or reinterpretation of the PRC's NFU pledge. From Beijing's perspective, such ambiguity and uncertainty provide a deterrent benefit—an advantage that China will aim to exploit and sustain. But it is also a risky and dangerous gambit.

Increasing Calls for Greater U.S. Engagement and Commitment

The project's commissioned research and deliberations underscored a continuing strong demand for the United States to be more deeply engaged in the Indo-Pacific region, including in helping regional governments respond to the challenges posed by China's ongoing modernization and expansion of its nuclear arsenal (and possibly other WMDs). However, the proposed extent and nature of U.S. engagement varied considerably across the different countries represented in the project. Proposals included more robust and regularized official discussions with allies about U.S. extended deterrence guarantees; greater intelligence sharing regarding China's nuclear arsenal; development of a more comprehensive deterrence strategy to include military, diplomatic, and economic measures; and various forms of assistance to bolster societal as well as military operational resiliency to counter potential use of WMDs.

Through the operation of Pine Gap and other signals intelligence facilities, *Australia* already makes a significant contribution to U.S. nuclear deterrence at the global and regional levels.

This includes monitoring foreign weapons testing and providing other information essential for early detection of missile launches, targeting of nuclear weapons and other strategic sites, and gathering other battlefield intelligence. In addition, Australian strategists have signaled that they would welcome deeper and more regularized official discussions between Canberra and Washington about U.S. extended deterrence commitments and the circumstances under which the deployment of U.S. nuclear capabilities would be considered.

For *India*, the prospects for deeper engagement with the United States in relation to nuclear weapons are constrained by U.S. nonproliferation policies and legislation prohibiting certain kinds of cooperation with states like India that are not signatories to the Nuclear Non-Proliferation Treaty (NPT). However, other avenues of cooperation might include sharing intelligence about China's nuclear arsenal, the motivations behind its expansion, and possible changes in China's nuclear doctrine. The United States and India also share an interest in monitoring the continuous deterrent patrols of China's six Jin-class nuclear ballistic missile submarines (SSBNs) and, in the future, its next-generation Type 095 SSBNs.

The project's interlocutors from *Japan* stressed the need for deepening consultation and cooperation with the United States regarding U.S. extended nuclear deterrence commitments, the further development of Japanese conventional counterforce capabilities, and improved missile defenses. At the same time, Japanese leaders would welcome continued, strong signals from the United States of its intention to abide by its obligations under the NPT, including to seek the ultimate eradication and prohibition of nuclear weapons.

The U.S.-Philippines EDCA explicitly prohibits the pre-positioning of nuclear weapons and other WMDs on Philippine territory. However, as with the other U.S. allies represented in this project (Australia and Japan), discussions regarding the *Philippines* suggest that Manila likewise seeks stronger assurances and defense commitments from the United States, including on extended nuclear deterrence and the possible provision of missile defenses. Aside from these measures, it was stressed that the Philippines most urgently needs assistance to improve its conventional military capabilities to undertake independent operations in defense of its territorial sovereignty.

The possibilities for escalation to nuclear use appear strongest in relation to contingencies involving *Taiwan*. The project's commissioned research and strategic dialogue called for U.S. support to Taiwan to strengthen its conventional deterrent and build greater military operational and societal resilience to withstand China's potential use of WMDs or other weapons with strategic effect. But these efforts cannot focus on military deterrence alone, which in itself could catalyze an escalatory spiral. Other U.S.-led multilateral diplomatic and economic initiatives among like-minded allies and partners can encourage peaceful means for resolving differences across the Taiwan Strait and help deter the PRC's use of force—including the threat or use of WMDs—against Taiwan.

U.S. relations with *Vietnam* are improving but remain politically sensitive. For Vietnam, an optimal strategy in the near to medium term will seek to minimize Chinese coercion while cautiously expanding security cooperation with the United States. The Vietnamese contribution to the project suggests that Hanoi and Washington consider greater cooperation on health and pandemic prevention, with an eye to possibly expanding into related areas, such as biodefense. However, from Hanoi's perspective, U.S. assistance to Vietnam should complement, not substitute for, other countries' assistance. This diplomatic balancing act will continue to affect how Vietnam cooperates with foreign countries on specific issues.

Policy Options

Based on the six overarching themes above, and drawing from the country-specific essays that follow, this concluding section presents a series of actionable policy options for the U.S. government. For greater clarity, the policy options are organized and linked to the six principal themes discussed above. Taken together, they aim to enhance the ability of the United States, working in concert with its Indo-Pacific allies and other security partners, to counterbalance and deter China's increasing coercive, deterrent, and warfighting capabilities, especially with regard to nuclear weapons and other WMD-related technologies.

Deepening of regional concern over the PRC's nuclear buildup. In the face of deepening regional concern over the PRC's nuclear buildup, implementing regional dialogues regarding China's nuclear weapons buildup and its implications for regional and global security presents opportunities for greater intelligence sharing between the United States and its allies and partners.

Indirect threats of the PRC's nuclear buildup looming larger. Some of the indirect threats posed by PRC nuclear modernization include the increased potential for conventional conflict, owing to the stability-instability paradox; the increased possibility of a conventional attack by the PRC against certain neighboring countries in the event of a U.S.-China conflict; and China's efforts to undermine U.S. defense commitments in the region, including extended deterrence guarantees. In the face of these threats, the United States should consider further innovations in resources to strengthen and disperse U.S. and allied conventional deterrent capabilities. These could include missile defense advancements, long-range strike weapons, in-region stockpiling and manufacturing of munitions, and increased U.S. rotational force presence.

The emerging challenge of selling deterrence. Updating deterrence across the region requires greater efforts, across all domains, such as through dialogue with regional counterparts about the emergent risks of nuclear tensions, escalation, and potential use. Through a careful balancing of deterrence and reassurance, these discussions could more openly address and socialize such issues as China's more powerful nuclear arsenal; U.S. conventional and nuclear deterrence commitments; the development of a comprehensive military, diplomatic, and economic deterrence strategy among regional allies and partners; and cooperative programs to improve societal and military operational resilience to counter potential WMD use by the PRC.

Concerns with the PRC's potential use of other WMDs. The U.S. government should actively but judiciously consider the deployment of narrowly scoped intelligence disclosures to publicly expose the PRC's activities of concern in relation to its development and potential use of non-nuclear WMDs. This effort could include selective revelations of ongoing programs between the United States' key partners in the region to monitor and respond to non-nuclear WMD threats and shed light on relevant Chinese military-technical plans and activities prior to their execution. Special attention should be given to assisting allies and partners with fewer resources, such as the Philippines and Vietnam.

Vexing implications for the U.S.-PRC deterrence dynamic. The findings of the study give even greater priority to assessing and responding to China's deterrence and escalation calculations, both above and below the threshold of WMD use. This effort must include assessments of how to dissuade and disrupt a PRC deterrence posture that features increasing, if misplaced, confidence and escalatory risk-taking, including through military, diplomatic, and economic means. This entails conveying to Beijing, in the strongest possible terms, warnings of U.S., allied, and partner

responses, including punitive military, diplomatic, and economic consequences that would result from the PRC's threat or use of nuclear weapons or other WMDs.

Increasing calls for greater U.S. engagement and commitment. Bolstering the U.S. deterrent and extended deterrence commitments likely requires greater resource commitments. This could include, under the leadership of the U.S. Department of Defense, the diversification and strengthening of strategic conventional and nuclear weapons, delivery platforms, and supporting infrastructure, such as land-based medium-range cruise and ballistic missiles. This effort could also include greater intelligence sharing with regional allies and partners regarding China's nuclear arsenal and its supporting infrastructure. In addition, with the Department of State taking the lead, the United States, in consort with key allies and partners, could encourage the development of a more comprehensive deterrence and reassurance strategy that combines the potential for coordinated punitive military, diplomatic, and economic measures and harmonized reassurances on key "red line" issues for China such as Taiwan. These steps could also include the implementation of technical assistance programs with regional allies and partners, including detection, monitoring, protection, emergency response, and defense systems, to bolster societal as well as military operational resiliency to counter potential WMD use by the PRC.

To signal the commitment of U.S. allies to integrated deterrence and to further reassure these allies, the United States might explore the establishment of a multilateral nuclear deterrence dialogue group involving the United States and its regional treaty allies Australia, Japan, the Philippines, South Korea, and Thailand. Moreover, this effort could be closely coordinated with ongoing bilateral deterrence discussions with partners in the region.

The United States could also give active but careful consideration to publicly revealing selective intelligence on the PRC's nuclear buildup and information on threatening activities prior to their implementation. These measures can help strengthen the deterrence preparedness of the United States and its partners in the face of threats from the PRC. This effort might also include information on U.S. defense collaboration programs with key partners in the region and demonstrations of U.S. and partner capabilities.

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Australia and Chinese Nuclear Modernization: Waking Up to New Nuclear Realities

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EXECUTIVE SUMMARY

This essay assesses the threats to Australia from Chinese nuclear modernization, considers scenarios for China's likely use of nuclear threats against Australia, and examines the military policies and operational capabilities employed by Australia in response.

MAIN ARGUMENT

Australia assumes that it is covered by U.S. extended nuclear deterrence, but this has never been acknowledged in joint statements by the two countries. As such, there is a lack of clarity about either country's understanding of the scope of U.S. nuclear guarantees toward Australian territory or military assets, or what role Australia may be asked to play in supporting U.S. nuclear deterrence in peacetime or in conflict. China has made significant progress in modernizing, diversifying, and expanding its nuclear forces, thereby improving their survivability. While Canberra has plans in place to acquire or develop its long-range strike and missile defense capabilities, it is currently dependent on U.S. extended deterrence against potential Chinese threats. Canberra should also be concerned that China may be moving away from its no-first-use nuclear policy and may contemplate the use of tactical nuclear weapons to coerce the U.S. and its allies and deter them from intervening in a regional conflict. It is likely that Australia will be involved militarily in a Taiwan contingency if the U.S. chooses to intervene, but its contributions would vary according to whether conflict remains localized or widened. Either way, Australian territory would be used to support U.S. forces operating farther afield, putting Australian bases under threat from Chinese long-range missiles. Awkward questions on both sides of the alliance about the scope and reliability of U.S. extended nuclear deterrence can no longer be avoided.

POLICY IMPLICATIONS

- To minimize the risk of a nuclear conflict, the U.S. and its allies need to find ways of persuading or compelling China to separate its nuclear and conventional weapons and to agree to direct lines of communication and protocols (as existed with the Soviet Union).
- The annual U.S.-Australia Strategic Policy Dialogue might include deeper and explicit discussion about the circumstances or scenarios in which the deployment of U.S. nuclear capabilities in Australia would be considered, establishing shared understanding of what amounts to a crisis and what responses would be escalatory, as well as detailed scenario planning.
- The Australian government should have sustained, honest, and direct conversations with the Australian people about the increasing risks of conflict with China, the risks of escalation, and the urgent need to deter it from using force.

The steady advancement of Chinese nuclear capabilities has been observed with growing concern in Australia, but there has yet to be a considered evaluation of what this might mean for Australia’s defense, including the operation of U.S. extended nuclear deterrence. In 2020 the Australian government released a Defence Strategic Update that officially recognized that the security environment in the Indo-Pacific had deteriorated significantly over the preceding four years. According to the document, the intensification of major-power competition has increased the prospect of a high-intensity conflict that “could engage the Australian Defence Force (ADF) where Australia’s interests are threatened.”¹ In a similar vein, the National Defence Statement released by the new Labor government in April 2023 noted that China’s “large-scale conventional and non-conventional military build-up without strategic reassurance...combined with rising tensions and reduced warning time for conflict” means that “the risks of military escalation or miscalculation are rising.”² It then went on to endorse an ambitious plan put forward in the 2023 Defence Strategic Review to revamp the ADF’s force posture, force structure, and capabilities to respond to high-level threats from a great-power adversary—a circumstance that Australia has not faced since World War II. This involves the urgent acquisition and development of capabilities to put into effect a deterrence-by-denial strategy, including long-range strike options across all domains.³

Nevertheless, while the Defence Strategic Review notes that the risk of nuclear escalation is “real,” and that Australia relies on the United States’ extended nuclear deterrence, the review does not provide any elaboration of what the government might view as the most troubling aspects of Chinese nuclear modernization and how this might put Australia’s national security at risk or undermine U.S. extended nuclear deterrence. Given the absence of official government policy or public statements on the issue, this essay will provide an assessment of the direct and indirect threats to Australia from Chinese nuclear modernization, scenarios for the likely use of nuclear threats by the People’s Republic of China (PRC) against Australia, the military policies and operational capabilities employed by Australia in response, and proposed mechanisms in partnership with the United States to counter such nuclear threats—based largely on first principles.

Extended Nuclear Deterrence and the ANZUS Alliance

Extended nuclear deterrence has not featured prominently in official discourse concerning the Australia-U.S. alliance. The foundation of the alliance is the Australia, New Zealand, and United States Security Treaty of 1951 (ANZUS), which states that “each party recognizes that an armed attack in the Pacific area on any of the parties would be dangerous to its own peace and safety and declares that it would act to meet the common danger in accordance with its constitutional processes.” The treaty, as written, provides neither an “explicit guarantee for an automatic U.S.

¹ Department of Defence (Australia), *2020 Defence Strategic Update* (Canberra, July 2020), 6, https://www.defence.gov.au/sites/default/files/2020-11/2020_Defence_Strategic_Update.pdf.

² Australian Government, *National Defence: Defence Strategic Review 2023* (Canberra, 2023), 5, <https://www.defence.gov.au/about/reviews-inquiries/defence-strategic-review>.

³ *Ibid.*, 7.

military intervention on Australia's behalf for every potential defense contingency that may arise" nor explicit coverage by U.S. extended nuclear deterrence.⁴

During the Cold War, neither party sought to formally strengthen U.S. nuclear guarantees, with Europe considered the main theater of potential nuclear conflict and Australia facing only indirect threats from the nuclear forces of China or the Soviet Union. The now unclassified "Australian Strategic Analysis and Defence Policy Objectives" paper of 1976 stated that Australia had "for many years deliberately avoided attempts to reach understandings with U.S. governments" about the circumstances in which U.S. support could be relied on, including against nuclear threats, suggesting that Canberra was afraid of becoming too greatly entangled in Cold War conflicts.⁵ On the flipside, Australia did go through various periods where doubts remained about the reliability of U.S. support in the event of a conventional attack on Australian territory from within the region (Sukarno's Indonesia loomed large), which gave rise to the 1976 policy of "self-reliance" whereby Australia developed greater sovereign capabilities to defend against lower-level regional threats.⁶ Nevertheless, policy guidance documents from the 1980s made clear that ANZUS was still viewed by Australian governments as a valuable deterrent to potential adversaries, "particularly against higher level threats."⁷

Although Australia did not seek an explicit nuclear guarantee during the Cold War period, it did value and contribute to U.S. nuclear deterrence on a global level. It did so by hosting "joint" command, communications, control, and intelligence facilities in remote parts of Australia that supported U.S. strategic nuclear forces from the 1960s onward. In 1968, U.S. naval signals intelligence and tracking operations began on Australia's Northwest Cape at the Harold E. Holt Naval Communication Station. The joint facility at Pine Gap near Alice Springs (in northern Australia) was used by the U.S. Central Intelligence Agency, National Security Agency, National Reconnaissance Office, and Defense Advanced Research Projects Agency to monitor Soviet missile testing and collect related satellite reconnaissance, beginning in 1968 as well, and has continued to operate under the principle of "full knowledge and concurrence" since the 1980s. Joint Defence Facility Nurrungar in South Australia utilized defense satellites to provide early warning of Soviet nuclear detonations and missile launches until 1999. Australia also played a key role as a transit point for nuclear-capable air and naval U.S. forces operating in the Asia-Pacific.⁸

While recognizing that these defense contributions were potential targets for Soviet nuclear retaliation, then Australian foreign minister Bill Hayden in 1983 declared to the Australian parliament that "the contribution made by the joint defense facilities to the deterrence of nuclear war fully justifies any risks that might be seen as arising from our having those facilities in Australia."⁹ Australia at the time was content to bear the risks of strengthening U.S. nuclear deterrence globally and to contribute to the verification of arms control treaties without seeking explicit nuclear assurances from the United States.

⁴ William T. Tow, "The ANZUS Dispute: Testing U.S. Extended Deterrence in Alliance Politics," *Political Science Quarterly* 104, no. 1 (1989): 134.

⁵ Quoted in Stephan Frühling, "The Fuzzy Limits of Self-Reliance: U.S. Extended Deterrence and Australian Strategic Policy," *Australian Journal of International Affairs* 67, no. 1 (2013): 22.

⁶ *Ibid.*, 22–23.

⁷ Paul Dibb, *Review of Australia's Defence Capabilities* (Canberra, 1986), 46, quoted in Tow, "The ANZUS Dispute," 134.

⁸ Tow, "The ANZUS Dispute," 123.

⁹ Quoted in *ibid.*, 133.

Surprisingly, it was only after the end of the Cold War—in 1993, when the threat of nuclear war had become extremely unlikely—that an official Australian defense policy document made specific reference to a reliance on U.S. extended nuclear deterrence.¹⁰ This practice has continued in subsequent policy documents, including the *2020 Defence Strategic Update*, which briefly concludes that “only the nuclear and conventional capabilities of the United States can offer effective deterrence against the possibility of nuclear threats against Australia.”¹¹ The latest Defence Strategic Review, published in April 2023, elaborates slightly more, revealing an elevated assessment of the likelihood of regional conflict, the risk of nuclear escalation, and Australia’s reliance on U.S. extended nuclear deterrence: “In our current strategic circumstances, the risk of nuclear escalation must be regarded as real. Our best protection against the risk of nuclear escalation is the United States’ extended nuclear deterrence, and the pursuit of new avenues of arms control.”¹²

Nevertheless, while these official statements suggest that Australia assumes that it is covered by U.S. extended nuclear deterrence, this reliance has never been acknowledged in joint statements between the two countries. The 2022 Australia-U.S. Ministerial Consultations (AUSMIN) statement, for example, calls on China to “take steps to promote stability and transparency in the area of nuclear weapons” and notes a commitment of both countries to coordinate efforts to enhance “deterrence and resilience” among Indo-Pacific nations, but it does not make reference to an extended nuclear deterrence relationship between them.¹³ There are no public statements about either country’s understanding of the scope of U.S. nuclear guarantees toward Australian territory and military assets or what role Australia may be asked to play—beyond Pine Gap and other signals intelligence capabilities—in supporting U.S. nuclear deterrence in the region in peacetime or times of conflict. Such support could include the operation of conventional or dual-capable U.S. forces from Australian territory—beyond B-52 bombers, which operate from Australia’s northern air bases, currently only for training purposes but soon for operational ones¹⁴—and the potential deployment of land-based intermediate-range missiles. The United States has not made a formal request to Australia so far.¹⁵ Yet, in the wake of the U.S. withdrawal from the Intermediate-Range Nuclear Forces Treaty in 2019, the then U.S. secretary of defense Mark Esper spoke in favor of deploying U.S. ground-based conventional missiles to Asia.¹⁶ Given growing apprehensions over the possibility of conflict in the Taiwan Strait, China’s rapid expansion of its intermediate-range

¹⁰ Department of Defence (Australia), *Strategic Review 1993* (Canberra, 1993).

¹¹ Department of Defence (Australia), *2020 Defence Strategic Update*, 27.

¹² Australian Government, *National Defence*, 38.

¹³ “Joint Statement on Australia-U.S. Ministerial Consultations (AUSMIN) 2022,” Department of Foreign Affairs and Trade (Australia), 2022, <https://www.dfat.gov.au/international-relations/joint-statement-australia-us-ministerial-consultations-ausmin-2022>.

¹⁴ Angus Grigg, Lesley Robinson, and Meghna Bali, “U.S. Air Force to Deploy Nuclear-Capable B-52 Bombers to Australia as Tensions with China Grow,” ABC News (Australia), October 30, 2022, <https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380>; and Matthew Knott, “U.S. Nuclear-Armed Bomber Visits Allowed under Australian Treaty Obligations,” *Sydney Morning Herald*, February 15, 2023, <https://www.smh.com.au/politics/federal/us-nuclear-armed-bomber-visits-allowed-under-australian-treaty-obligations-20230215-p5ckrs.html>.

¹⁵ Jane Norman, “Defence Minister Says U.S. Hasn’t Asked to Base Missiles in Australia to Counter China’s Strategic Ambitions,” ABC News (Australia), August 4, 2019, <https://www.abc.net.au/news/2019-08-05/defence-minister-linda-reynolds-rules-out-us-darwin-missiles/11382852>.

¹⁶ Thomas Gibbons-Neff, “Pentagon Chief in Favor of Deploying U.S. Missiles to Asia,” *New York Times*, August 3, 2019, <https://www.nytimes.com/2019/08/03/world/asia/us-missiles-asia-esper.html>.

missile arsenal, and the complete lack of any U.S. ground-based missile forces in the Indo-Pacific, such questions could be asked sooner rather than later.¹⁷

Direct PRC Nuclear Threats to Australia

The Pentagon's most recent assessment of Chinese military power reports that China is continuing to make significant strides "to modernize, diversify, and expand its nuclear forces" and that its "current efforts exceed previous modernization attempts in both scale and complexity."¹⁸ Of concern is the "accelerated" expansion in the number of warheads, with the stockpile expected to increase from around 400 warheads today to 1,500 warheads by 2035; the continuing construction of three solid-fueled intercontinental ballistic missile (ICBM) silo fields with "at least 300 new ICBM silos"; and the development of advanced delivery systems for these warheads.¹⁹ The latter include new road-mobile ICBMs capable of carrying multiple independently targetable reentry vehicles, mobile intermediate-range ballistic missiles (IRBMs) capable of making conventional and nuclear strikes with precision, and a fractional orbital bombardment system armed with a hypersonic glide vehicle (currently in testing).²⁰ These and other developments have bolstered the survivability of China's nuclear forces through a significant increase in the number of deployed nuclear weapons, the fielding of a nascent nuclear triad of delivery systems (adding nuclear-capable air-launched ballistic missiles and submarine-launched ICBMs), and improvements in supporting intelligence, surveillance, and reconnaissance (ISR) systems.

In terms of direct nuclear threats to Australia, Canberra is most concerned about China's development of capabilities that in peacetime could be used coercively and in wartime could be used to target Australian territory and military assets deployed within the country's immediate region or farther afield. Beijing has now developed dual-capable (conventional or nuclear-armed) long-range missiles that could strike Australian bases from Chinese-controlled islands in the South China Sea or from the Chinese mainland. Current assessments suggest that Australian military facilities in parts of Queensland, the Northern Territory, and northern parts of Western Australia would be vulnerable to IRBMs (the DF-26, for example) or H-6K bombers deployed from China's militarized islands in the South China Sea.²¹ The whole of the Australian mainland would be vulnerable to strikes from bases in mainland China using the newly developed air-refuelable H-6N bomber, which was first operationally fielded in 2020.²² The future development of longer-range nuclear ICBMs (such as the DF-27, with an estimated range of 5,000–8,000 kilometers) capable of reaching most or all of Australian territory from the Chinese mainland is also foreseeable and predictable given current trends.²³

¹⁷ Brad Roberts, testimony before the U.S.-China Economic and Security Review Commission Hearing on China's Nuclear Forces, Washington, D.C., June 10, 2021, 215, https://www.uscc.gov/sites/default/files/2021-06/June_10_2021_Hearing_Transcript.pdf.

¹⁸ U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022* (Washington D.C., November 2022), ix, <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.

¹⁹ *Ibid.*, ix, 64.

²⁰ *Ibid.*, 65.

²¹ Thomas Shugart, "Australia and the Growing Reach of China's Military," Lowy Institute, August 9, 2021, 10, 11, <https://www.lowyinstitute.org/publications/australia-growing-reach-china-s-military>.

²² Shugart, "Australia and the Growing Reach of China's Military"; and U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*, 60.

²³ U.S. Department of Defense, *Military and Security Development Involving the People's Republic of China 2022*, 65.

Australia does not currently have an answer to these Chinese capabilities. Canberra has the ambition to develop its own long-range strike capabilities to put into effect a deterrence-by-denial strategy, as is stated policy in the *2020 Defence Strategic Update* and the most recent Defence Strategic Review.²⁴ These capabilities would be used to deter or respond to “PLA strike capabilities in the archipelago to our north or the Southwest Pacific, whether on ships and submarines or land-based missiles and aircraft.”²⁵ However, while plans are underway and orders have been placed for Tomahawk land-attack missiles, LRASMs (Long Range Anti-Ship Missiles), HIMARS (High Mobility Artillery Rocket System) launchers, and Precision Strike Missiles, such long-range strike capabilities are yet to be acquired. Australia also does not have its own sovereign ballistic missile defense capabilities, something that the Defence Strategic Review has identified as a critical capability to be developed with urgency. As such, Australia is currently dependent on the willingness of the United States to provide extended deterrence, conventional or nuclear, against potential Chinese threats to Australian territory or access to its northern approaches.²⁶ Given the lack of an explicit nuclear guarantee, such an assurance is assumed based on U.S. self-interest and the increasingly high level of force-posture cooperation between the two allies.²⁷ As discussed earlier, joint facilities like Pine Gap play a particularly important role for the United States in the collection of signals intelligence essential for early warning for ballistic missile launches, targeting of nuclear weapons, and battlefield intelligence data.²⁸

Indirect PRC Nuclear Threats to Australia

Recognizing the increased risk of major conflict between the United States and China in the Indo-Pacific region, Australian leaders have emphasized that Australia is prepared to play its part in deterring China from using force to achieve its territorial objectives.²⁹ This is reflected in the Defence Strategic Review of 2023. Should deterrence efforts fail, Australia would overwhelmingly prefer that the conflict stays within the conventional realm through the operation of U.S. nuclear deterrence. Even so, the Australian government should be concerned about whether Chinese nuclear modernization could increase Beijing’s propensity to use conventional military force to achieve its territorial ambitions, the concomitant risks of nuclear escalation this would bring, any evidence to suggest that China is moving away from its no-first-use nuclear policy, and the impact these developments may have on the United States’ capability and commitment to extend a nuclear umbrella over its allies in the region. These effects could also be defined as “direct” threats to Australian interests given that if conflict were to break out between the United States and China in East Asia, Australian forces (and territory) would very likely be involved in some way as an alliance partner.

²⁴ Australian Government, *National Defence*.

²⁵ Marcus Hellyer and Andrew Nicholls, “‘Impactful Projection’: Long-Range Strike Options for Australia,” Australian Strategic Policy Institute, December 2022, 4, https://ad-aspi.s3.ap-southeast-2.amazonaws.com/2022-12/Impactful%20projection.pdf?VersionId=cvFyjDys7.R5_ZSjRURXZDgSgpilQ9e.

²⁶ Paul Dibb, “China Threatens Australia with Missile Attack,” Australian Strategic Policy Institute, Strategist, July 26, 2021, <https://www.aspistrategist.org.au/china-threatens-australia-with-missile-attack>.

²⁷ “Joint Statement on Australia-U.S. Ministerial Consultations (AUSMIN) 2022.”

²⁸ Stewart Brash and Emma Haskin, “Pine Gap in Alice Springs Likely Gathering Intelligence about Russia’s Next Moves in Ukraine,” ABC News (Australia), March 3, 2022, <https://www.abc.net.au/news/2022-03-03/pine-gap-base-gathering-information-russia-ukraine-conflict/100878478>.

²⁹ Anthony Albanese, “Keynote Address at the IISS Shangri-La Dialogue,” Prime Minister of Australia, June 3, 2023, <https://www.pm.gov.au/media/iiss-shangri-la-dialogue>.

China's official nuclear policy has been defensive in nature, as affirmed by a series of defense white papers and authoritative texts going back to the Mao era. Historically, and prior to the Xi era, China was content with a modest nuclear deterrent to avoid being subject to what Mao Zedong referred to as "nuclear blackmail."³⁰ In developing much larger numbers of nuclear warheads and a nascent nuclear triad of delivery systems, it has moved away from a minimal deterrent posture to one with the capacity to execute "assured retaliation."³¹ This development could be viewed as consistent with China's long-standing defensive nuclear policy. It could also be viewed as inherently stabilizing by supporting mutually assured destruction, thereby reducing the temptation for either the United States or China to consider the use of nuclear weapons in any conflict with one another.

Nevertheless, Chinese nuclear modernization may not have such positive effects. It could indirectly undermine U.S. conventional military deterrence in Asia. A common assessment is that China seeks the capability to "conduct a short, sharp conventional war"—in the Taiwan Strait, the East China Sea, or the South China Sea—to achieve its territorial objectives. If China is able to seize these territories before the United States and its allies are able to move their forces into a position to intervene, this would significantly raise the costs of attempting to eject Chinese forces and thereby decrease the likelihood that they would do so.³² This scenario has become more plausible as the military balance between the United States and China in East Asia has narrowed in the conventional realm. Improvements in its capabilities for nuclear retaliation could therefore encourage China to use conventional military force by reducing fears of nuclear escalation by the United States in a Taiwan conflict.³³ This is consistent with the stability-instability paradox. An increased prospect of conventional war in the Indo-Pacific region has direct implications for Australia, including the attendant risk of nuclear escalation should China be wrong about U.S. resolve.

A second concern for Australia is China's apparent move toward a launch-on-warning posture for a portion of its nuclear forces, as well as the entanglement problem—both of which increase the possibility of nuclear use.³⁴ A launch-on-warning posture inherently heightens the risk of accidental or erroneous nuclear escalation in a crisis.³⁵ There are three forms of entanglement of Chinese conventional and nuclear forces that are a cause of concern: Chinese missiles that are dual-capable or hot-swappable (e.g., the DF-26), whereby conventional warheads could be swapped rapidly and replaced with nuclear warheads in a crisis or conflict; the placement of conventional and nuclear missile forces at the same bases; and finally, the mixing of command and control systems (satellite and radar) for both conventional and nuclear forces. These practices could inadvertently—but predictably—increase the likelihood of nuclear escalation if a U.S. attack on Chinese conventional forces or targets were mistakenly interpreted as an attack on China's nuclear forces.³⁶

³⁰ Ashley J. Tellis, "Striking Asymmetries: Nuclear Transitions in Southern Asia," Carnegie Endowment for International Peace, 2022, chap. 1.

³¹ *Ibid.*, 32.

³² Abraham Denmark and Caitlin Talmadge, "Why China Wants More and Better Nukes: How Beijing's Nuclear Buildup Threatens Stability," *Foreign Affairs*, November 19, 2021.

³³ *Ibid.*

³⁴ U.S. Department of Defense, *Military and Security Development Involving the People's Republic of China 2022*, 99.

³⁵ See U.S.-China Economic and Security Review Commission, "2021 Report to Congress," November 2021, 361, https://www.uscc.gov/sites/default/files/2021-11/2021_Annual_Report_to_Congress.pdf.

³⁶ Jacob Stokes, "Atomic Strait: How China's Nuclear Buildup Shapes Security Dynamics with Taiwan and the United States," Center for a New American Security, February 7, 2023, 3–4.

A third potential indirect threat is that China may be moving away from its no-first-use nuclear policy toward the potential first use of tactical nuclear weapons, particularly in a Taiwan Strait contingency. Although there has been no official shift in Chinese policy, aspects of Chinese nuclear modernization make such a shift possible. These include the “precision, range and hot-swappable character of the DF-26” and “improvements in China’s NC3 system and ISR,” which allow for more precise identification and targeting of U.S. forces during a conflict.³⁷ The United States itself does not have a no-first-use policy, with the 2022 U.S. Nuclear Posture Review retaining the option of using the threat of nuclear use to deter “not only nuclear attack, but also a narrow range of other high consequence, strategic-level attacks.”³⁸

While there is considerable debate about whether a shift away from a no-first-use policy is likely, the possibility that China could develop the capability and intent to conduct nuclear warfighting should be taken seriously. Under President Xi Jinping’s leadership, China has become more aggressive in the assertion of its territorial claims, has significantly raised the level of military and nonmilitary coercion of Taiwan, and appears to care less about its global reputation. Various scenarios for China’s first use of tactical nuclear weapons have been suggested in light of Russian nuclear threats to deter U.S. and NATO forces from becoming direct participants in the Ukraine conflict. In East Asia, this could involve the making of nuclear threats to deter U.S. and allied intervention on behalf of Taiwan. Other scenarios include the limited use of nuclear weapons “in a remote location” to demonstrate “resolve to employ all available means to successfully invade Taiwan but without causing physical damage to opposing forces” or against U.S. targets outside the U.S. mainland, such as Guam, Hawaii, an aircraft carrier strike group, or bases in Okinawa.³⁹ To counter the prospect of nuclear first use by China, the United States will need to signal strong resolve to respond in kind and disabuse Beijing of any notion that striking U.S. and allied targets within the region will not be met with a nuclear response.

A final indirect threat is the effect that China’s growing nuclear and conventional capabilities have already had on the foreign and defense policies of regional states, especially in Southeast Asia. Most of the states of maritime Southeast Asia follow a “hedging” strategy toward both the United States and China, continuing to maintain security relations with the United States to varying degrees while pursuing trade and investment opportunities with China. China’s rapid advances in both nuclear and conventional capabilities have been factored in, internalized, and accepted by these countries, with many viewing efforts by the United States and its allies to push back against Chinese coercion and aggression, or to support Taiwan, as destabilizing rather than as a defense of the status quo.⁴⁰ These countries define a high-end and protracted great-power war as the ultimate strategic disaster to be avoided at all costs, regardless of whether Beijing is shifting facts on the ground to impede freedom of navigation or weaken their maritime rights under international law.

Having accepted and internalized China’s growing capabilities, over time Southeast Asian countries—except for the Philippines, Vietnam, and to some degree Singapore—have sought an unequal accommodation with China. As a result, support is now lower for U.S. and allied actions designed to counter and deter Chinese use of these weapons. Growing Chinese conventional and

³⁷ Quoted in U.S.-China Economic and Security Review Commission, “2021 Report to Congress,” 363.

³⁸ U.S. Department of Defense, *2022 Nuclear Posture Review* (Washington, D.C., October 2022), 8.

³⁹ Stokes, “Atomic Strait,” 9–10.

⁴⁰ Derek Grossman, “After Pelosi’s Visit, Most of the Indo-Pacific Sides with Beijing,” *Foreign Policy*, August 22, 2022, <https://foreignpolicy.com/2022/08/22/china-taiwan-pelosi-crisis-missiles-indo-pacific-allies-support>.

nuclear capabilities further expand the vast asymmetry of military power between China and Southeast Asian countries and support Chinese grand narratives. These narratives promote the mind-set that China's rise is natural and inevitable, that the country cannot be deterred from achieving its objectives (including in the South and East China Seas and the Taiwan Strait), and that benefits are assured for those countries that acquiesce to a hierarchical Chinese order.⁴¹ In short, the mere existence of advanced Chinese nuclear and conventional systems changes the strategic environment in an adverse way for Australia.

Specific Scenarios for the PRC's Use of Nuclear Threats against Australia

In the period between 2016 and 2023, Australian defense assessments of the risks of conflict in the Indo-Pacific region took a downward turn. The *2016 Defence White Paper* assessed that there was “no more than a remote prospect of a military attack on Australian territory by another country in the period to 2035” and that “major conflict between the United States and China is unlikely.”⁴² Four years later, the *2020 Defence Strategic Update* stated that “while still unlikely, the prospect of high-intensity military conflict in the Indo-Pacific is less remote than at the time of the *2016 Defence White Paper*.”⁴³ It went on to upend the long-standing assumption in defense planning that Australia would have a ten-year strategic warning time for any major conventional attack and instead stated that Australia no longer had time to “gradually adjust military capability and preparedness in response to emerging challenges.”⁴⁴ The latest Defence Strategic Review is significantly starker still, noting that the strategic circumstances and risks Australia now faces are “radically different” from those of the previous 80 years as a result of the decline in U.S. relative power, the emergence of intense China-U.S. competition, and an increased risk that this competition may result in military conflict. It confirms the Defence Strategic Update's view that the concept of “warning time” for a major attack was no longer valid in the contemporary strategic era, given the ability of more countries—read China—to project combat power over greater ranges in all five domains. As a consequence, the Defence Strategic Review issued an “urgent call to action, including higher levels of military preparedness and accelerated capability development.”⁴⁵ In other words, Australia and the ADF now need to be prepared for the possibility of becoming involved in conflict in the Indo-Pacific, including an attack on Australian territory at any time.

The current government is steadfast in its refusal to speculate about the precise circumstances in which Australia may become involved in military conflict. In a speech at the 2023 Shangri-La Dialogue, Prime Minister Anthony Albanese spoke of Australia's intent to build up its defense capabilities in order to play a part in deterring the use of force in the Indo-Pacific region, with special mention given to Taiwan, the South China Sea, and the East China Sea.⁴⁶ The escalation in China's military, economic, and diplomatic harassment of Taiwan since former speaker of the

⁴¹ John Lee and Lavina Lee, “Countering China's Grand Narratives,” *American Interest*, April 10, 2020, <https://www.the-american-interest.com/2020/04/10/countering-chinas-grand-narratives>.

⁴² Department of Defence (Australia), *2016 Defence White Paper* (Canberra, 2016), 40, 43, <https://www.defence.gov.au/about/strategic-planning/defence-white-paper>.

⁴³ Department of Defence (Australia), *2020 Defence Strategic Update*, 14.

⁴⁴ *Ibid.*, 14.

⁴⁵ Australian Government, *National Defence*, 25.

⁴⁶ Albanese, “Keynote Address at the IISS Shangri-La Dialogue.”

U.S. House of Representatives Nancy Pelosi's visit in August 2022 has significantly increased fears of conflict in the Taiwan Strait. This is especially so, given U.S. intelligence showing that President Xi Jinping has instructed the People's Liberation Army (PLA) to "be ready by 2027" to invade Taiwan.⁴⁷ While this timeline is not inevitable, given the developments in the PLA modernization program that have prioritized building the capacity to take Taiwan by force, it should be taken seriously.⁴⁸ Other less likely scenarios involve military escalation arising from the PLA's increasingly dangerous and aggressive challenges to U.S. military patrols in the South China Sea.⁴⁹

If conflict arises in the Taiwan Strait or the South China Sea, Australia will be called on by the United States for military support. While Australia's defense minister, Richard Marles, was recently at pains to deny that Australia had given the United States any assurances over military involvement in a Taiwan contingency, it is inconceivable that Australia would not be involved militarily in some way as part of its alliance commitments.⁵⁰ Australia has its own strong interests in ensuring that Taiwan maintains its de facto independence, given that "unification" would significantly enhance China's ability to project force within and outside the first island chain, undercutting U.S. access to the region as well as the security of South Korea and Japan. A major constraint on the level of Australian involvement is its current lack of defense capability to project power into East Asia in a significant way. The extent of Australian military involvement would also depend on whether a Taiwan conflict remains localized in East Asia or expands further. If the conflict remained localized, Australian contributions would be small and might include "Wedgetail airborne early-warning and control aircraft, air-to-air refuelers, growler electronic attack aircraft, and Aegis- and CEC-equipped air warfare destroyers."⁵¹ Should the conflict widen, Australia would likely contribute by using air power and sea power to secure critical lines of movement through Southeast Asia, including interdiction missions at key chokepoints such as the Malacca Strait. In any Taiwan scenario, Australian bases would be used by U.S. air forces and marines supported by Australian space, cyber warfare, and intelligence assets.

Australia currently plays a valuable role supporting U.S. force projection in the Indo-Pacific by serving as a logistics hub. Up to 2,500 U.S. marines rotate through Darwin for around six months per year in the dry season. During this period, a number of military exercises are conducted with Australian forces, as well as with the armed forces of other partners such as Japan and the Philippines. At the conclusion of the 2021 AUSMIN meeting, the United States and Australia announced a number of initiatives to further enhance force-posture cooperation in the air, sea, and land domains to support "high-end warfighting and combined military operations in the region."⁵² In December 2022, both countries committed to invest in logistics at Australian airfields in northern Australia to support increased rotations of up to six U.S. B-52 bombers, as well as

⁴⁷ Hope Yen, "CIA Chief: China Has Some Doubt on Ability to Invade Taiwan," Associated Press, February 26, 2023, <https://apnews.com/article/russia-ukraine-taiwan-politics-united-states-government-eaf869eb617c6c356b2708607ed15759>.

⁴⁸ See U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*.

⁴⁹ Idrees Ali and David Brunnstrom, "Chinese Jet Carried Out 'Aggressive' Maneuver Near U.S. Military Plane, Pentagon Says," Reuters, May 30, 2023, <https://www.reuters.com/world/asia-pacific/chinese-jet-carried-out-aggressive-maneuver-near-us-military-plane-pentagon-2023-05-30>.

⁵⁰ Rod McGuirk, "Australia Won't Promise to Side with U.S. in Taiwan Conflict," Associated Press, March 20, 2023, <https://apnews.com/article/australia-nuclear-powered-submarines-taiwan-208be03cc40dab2baeb50843e3c8da7>.

⁵¹ Michael Shoebriidge, "An Australian Perspective on Chinese Military Capabilities," in "Meeting China's Military Challenge: Collective Responses of U.S. Allies and Security Partners," ed. Bates Gill, National Bureau of Asian Research, NBR Special Report, no. 96, January 2022, 16.

⁵² "Joint Statement Australia-U.S. Ministerial Consultations (AUSMIN) 2021," Department of Foreign Affairs and Trade (Australia), 2021, <https://www.dfat.gov.au/geo/united-states-of-america/ausmin/joint-statement-australia-us-ministerial-consultations-ausmin-2021>.

other fighter aircraft. Such rotations would facilitate the buildup of these forces on short notice and help sustain their operations. This includes the pre-positioning of stockpiles of munitions, equipment, and fuel.⁵³

Should conflict break out, the Australian military bases in northern Australia, U.S. and Australian forces using these bases, and the Pine Gap facility would be under threat from Chinese long-range missiles. It is unclear whether China's assurances that nuclear weapons will not be used against states without these weapons will apply, given that U.S. B-52 bombers using Australian bases may be nuclear-armed. Currently, Australia does not have sufficient independent capacity to effectively defend these facilities and bases from conventional or nuclear attack, absent protection by a U.S. conventional or nuclear deterrent. The thinking is that these force posture initiatives tie the United States to Australia's own security and make it more likely that the United States will extend its deterrent capabilities to Australia.

Australia's Response

Australia is seeking to deter China's use of force within this decade through unilateral and joint development of long-range strike and asymmetrical weapons. It is also working to expand the ability of the United States to project power from Australian territory, as has already been detailed. In seeking to improve its own capabilities and assist U.S. force projection, Australia seeks to demonstrate two things: that it is pulling its weight within the alliance and that its military infrastructure is critical to U.S. war plans so as to be worth defending in a conventional or nuclear conflict.

The 2023 Defence Strategic Review endorsed a deterrence-by-denial strategy in response to the greater likelihood of Australia's involvement in major conflict. In pursuing this strategy, the ADF's primary area of military interest is defined as Australia's immediate region—"the north-eastern Indian Ocean through maritime Southeast Asia into the Pacific," including its northern approaches. This strategy involves the development of anti-access/area-denial capabilities to deny an adversary's ability to militarily operate against or coerce Australia without its forces being held at risk at a greater distance, particularly via long-range strike and undersea warfare capabilities and surface-to-air missiles.

Significant changes to force structure for each service have been recommended to strengthen deterrence by denial. The navy will need to develop enhanced lethality via the acquisition of conventionally armed, nuclear-powered submarines, which is the first pillar of the AUKUS partnership between Australia, the United Kingdom, and the United States. It will also need to add a larger number of tier 1 and tier 2 surface combatants to contribute sea denial, air defense, long-range strike, and antisubmarine warfare capabilities. The army must be transformed to conduct littoral maneuver operations by sea, land, and air from Australia, with enhanced long-range fires (land-based maritime strike). In turn, the air force must be configured to provide air support for joint operations in Australia's north by conducting surveillance, air defense, strike (maritime and land), and air transport. As part of the review, the government has allocated AUD\$1.6 billion to acquire more long-range strike systems, including accelerated delivery of HIMARS launchers and Precision Strike Missiles. For its part, the United States has previously agreed to sell Australia

⁵³ "Joint Statement on Australia-U.S. Ministerial Consultations (AUSMIN) 2022."

up to 220 Tomahawk land-attack missiles to equip the Royal Australian Navy's three Hobart-class destroyers, as well as LRASMs for Australia's two fighter jets (the FA-18F Super Hornet and the F-3A Lighting II strike fighters). A further AUD\$2.5 billion has been set aside to develop a domestic missile-production capability, known as the Guided Weapons and Explosive Ordnance Enterprise. Australia is essentially upgrading its military capabilities to independently (of the United States) defend the air and sea approaches to Australia, project integrated maritime and air power in the region, and provide meaningful augmentation to the U.S. Navy in Australia's immediate neighborhood.

Finally, as with the debates over force structure and capability in Taiwan, the review calls for a focus on developing an asymmetric advantage in relation to pursuing a strategy of denial—that is, “the application of dissimilar capabilities, tactics or strategies to circumvent an opponent's strengths, causing them to suffer disproportional cost in time, space or material.”⁵⁴ The government has accepted the review's recommendation that the development of critical technologies as part of the second pillar of AUKUS (autonomous underwater vehicles, quantum technologies, AI-enabled systems, hypersonic and counter-hypersonic capabilities, and electronic warfare) should be prioritized, with a senior official or officer to be given sole responsibility for expediting capability outcomes. The AUKUS partnership is based on the view that building such capabilities in a shortened time frame will require cooperation and assistance from the United States and the UK. While nuclear-propelled submarines will make a medium- to long-term contribution (beyond the early 2030s) to joint conventional capabilities for warfighting and deterrence, the impact of the second pillar would be evident in a shorter time frame of three to five years.

Regarding responding to Chinese WMD and nuclear capabilities, Australian thinking is still undeveloped. This is largely because of the speed at which strategic circumstances in the region have deteriorated, but also perhaps because of a failure to assess those circumstances accurately. The ADF has traditionally been structured to be ready to respond to low-level threats to Australian territory, to contribute to regional operations, and to provide global support to the United States. It has not been optimized to deliver a deterrence-by-denial strategy by conventional means against a highly capable great-power adversary. Whether the ADF can do so now in an urgent time frame remains to be seen. Reliance on U.S. extended nuclear deterrence has been assumed but not interrogated in recent years, and it now becomes a more urgent priority.

While the Australian government has made realistic assessments about the prospects of conflict and has developed a plan to build Australian capabilities to deter China from taking military action in concert with Australia's allies and partners, it has a poor track record of defense innovation and transformation. In its most recent budget, following the release of the Defence Strategic Review, the government has also failed to provide additional funding for defense over the next four years, confounding the urgency of its strategic assessments. Finally, the domestic debate over the AUD\$368 billion price tag of the first pillar of AUKUS has raised uncomfortable questions about how much financial sacrifice the Australian public is prepared to bear to build Australia's defense forces in a shortened time frame. The government has avoided building a strong case for it or discussing the real prospects for war. An Australian public opinion poll conducted by the United States Studies Centre in October 2022 found that 46% of respondents agreed or strongly agreed that if China attacks Taiwan, then Australia should send military forces to help defend it,

⁵⁴ Australian Government, *National Defence*, 71.

with only 25% of the sample disagreeing.⁵⁵ These sentiments have yet to be tested, however, and may be misleading, given the lack of public awareness as to how Australian territory itself might be put at risk, or the possibility that a conventional conflict could escalate to a nuclear one.

Opportunities for U.S.-Australia Cooperation to Counter the PRC's Nuclear Threats

China needs to know the full, disastrous extent of how the United States and its allies would respond (militarily and nonmilitarily) to a nuclear/WMD exchange. This involves urgently building individual and collective capabilities to deter and more robust communication of resolve to carry out deterrent threats even in the context of nuclear escalation. To minimize the risk of such a conflict, the United States and its allies need to find ways of persuading or compelling China to separate its nuclear and conventional weapons and to agree to direct lines of communication and protocols (as existed with the Soviet Union).

Consideration should be given to upgrading the annual U.S.-Australia Strategic Policy Dialogue to explicitly provide an extended nuclear deterrence reassurance mechanism for Australia. Specifically, the United States and Australia need to engage in deeper conversations about the circumstances or scenarios in which the deployment of U.S. nuclear capabilities in Australia would be considered, establishing shared understanding of what constitutes a crisis and what responses would be escalatory, as well as detailed scenario planning. The Australian public either is not yet prepared to accept an expansion of U.S. nuclear forces operating from Australia or its support has not yet been tested. The Australian government should have sustained, honest, and direct conversations with the public about the increasing risks of conflict with China and the urgent need to deter it from using force.

To signal to China the commitment of U.S. allies to integrated deterrence, as well as to ensure that the United States provides greater nuclear reassurance to those allies, Washington should consider establishing an Asian nuclear planning group, similar to the NATO nuclear planning group. This would involve discussions among Australia, Japan, South Korea, and the United States about U.S. nuclear forces and planning exercises and war games.⁵⁶ However, participation in such a grouping is likely to be a step too far for Australia prior to deeper discussion of extended deterrence and escalation management within the U.S.-Australia Strategic Policy Dialogue.

⁵⁵ Jared Mondschein and Victoria Cooper, "U.S. Midterms 2022: The Stakes for Australia and the Alliance," United States Studies Centre, University of Sydney, October 26, 2022, <https://www.usssc.edu.au/us-midterms-2022-the-stakes-for-australia-and-the-alliance>.

⁵⁶ Chuck Hagel, Malcolm Rifkind, and Kevin Rudd (Task Force Cochairs), "Preventing Nuclear Proliferation and Reassuring America's Allies," Lester Crown Center on U.S. Foreign Policy, Chicago Council on Global Affairs, February 2021, 15, https://globalaffairs.org/sites/default/files/2021-02/report_preventing-nuclear-proliferation-reassuring-americas-allies_0.pdf.

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China's Nuclear Modernization and Taiwanese National Defense: Flexibility, Resilience, and Deterrence

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EXECUTIVE SUMMARY

This essay argues that the buildup and modernization by the People's Republic of China (PRC) of its nuclear and WMD capabilities might be the most dangerous threat to Taiwan's national defense.

MAIN ARGUMENT

While the Taiwanese military is mainly focused on defending Taiwan against a conventional attack from the PRC, the PRC's potential use of a nuclear weapon or other WMD should be seriously considered. Since Xi Jinping came to power, nuclear and WMD capabilities have become a greater part of the PRC's military reforms. Taiwan should consider nuclear coercion not only due to the PRC's increasing number of warheads but also because of the possibility for the tactical use of nuclear weapons. Given this growing threat, Taiwanese defense strategists should work with like-minded allies to develop countermeasures for a scenario in which the PRC uses nuclear weapons, thereby providing for the survivability and preparedness of troops and critical assets and improving the resilience of Taiwanese society.

POLICY IMPLICATIONS

- The U.S. could extend current U.S.-Taiwan military exchanges, including by sending more observers and advisers to support Taiwan's reorganization of its armed forces and to strengthen the "mission command" military culture in the country. The focus should be on supporting reforms to rebuild Taiwan's military into a more decentralized and flexible armed force, thereby enhancing survivability when facing a possible WMD attack.
- The U.S. could further support Taiwan by introducing more modern technologies to enhance command-and-control capabilities and communications. Such measures to make Taiwan's military more flexible and mission command-oriented could make the tactical use of a nuclear weapon less attractive to PRC decision-makers.
- The U.S. and its allies and partners should consider a counter-coercion strategy in response to Chinese coercion efforts by developing a more comprehensive approach that gauges the PRC's intentions of actually using a WMD. Once the democratic countries can precisely assess China's intentions, it would then be much harder for the government to achieve its political goals via nuclear coercion.

The rise of the People's Republic of China (PRC, or China) continues to present challenges to the international system. China not only is the world's third-largest nuclear power but also is believed to have ambitions and programs in advanced biological and chemical weapons.¹

Given the long-standing threat of a PRC invasion of the Republic of China (ROC, or Taiwan), China's potential use of weapons of mass destruction is taken into serious consideration as part of Taiwan's defense preparations, even though the Taiwanese military mainly focuses on defending against conventional attack. Moreover, concerns about China's possible use of WMDs against Taiwan have increased in the years since Xi Jinping's ascent to power.² Notably, since Xi took office, nuclear capabilities have become a more important element of China's military reforms. As a result, the increase in numbers of nuclear weapons and the changes to China's nuclear strategy should be expected.

This essay argues that nuclear weapons have become one of the focal points of China's military reforms as part of Xi Jinping's ambition for a "strong army." The PRC's increasing number of nuclear warheads poses a threat to Taiwan not only because of the potential tactical use of these weapons but because of the potential for nuclear coercion to prevent foreign interference in a cross-strait conflict. Considering that both nuclear coercion and the tactical use of nuclear weapons would be extremely destructive for Taiwan's defense, this essay suggests that Taiwan should consider developing countermeasures with like-minded allies. In addition, it should also consider taking steps to increase the survivability of its troops and critical assets and improve the resilience of Taiwanese society.

The Increasing Threat to Taiwan from China's Nuclear Weapons

Beginning in the mid-1950s, China's development of nuclear weapons arose from nationalist ideology and a perceived need for strategic deterrence. While the PRC was busy becoming a nuclear power with the successful detonation of an atomic device in 1964, the ROC was focused on conventional warfare regarding the island's defense, in particular after the end of the Cold War. Taiwan's decision to not pursue nuclear weapons can be attributed to a few reasons: China's "minimal deterrence" and "no first use" concepts, U.S. extended nuclear deterrence during the period of the U.S.-ROC alliance (1954–78), and pressures on Taiwan by the United States and others to close its nuclear weapons development program.

However, nuclear threats to Taiwan are increasing due to China's expansion of its nuclear arsenal. Several features and threats can be found in recent People's Liberation Army (PLA) strategies. First, since Xi Jinping took power in 2012, his military reforms have included the expansion and modernization of nuclear weapons as an ambitious "strong army dream."³ As part of its strategic concept of "all-domain deterrence/compellence warfare," the PLA Rocket Force,

¹ Javin Aryan, "A Look at China's Biowarfare Ambitions," Observer Research Foundation, June 2, 2021, <https://www.orfonline.org/expert-speak/a-look-at-chinas-biowarfare-ambitions>; Peter Brookes, "China's Secretive Work in Biotechnology," Heritage Foundation, August 31, 2022, <https://www.heritage.org/asia/commentary/chinas-secretive-work-biotechnology>; and U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2023* (Washington, D.C., October 2023), 114–15, <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.

² Although the term WMD refers to nuclear, chemical, radiological, and biological weapons, this essay focuses exclusively on nuclear weaponry.

³ "Lianghui di yi guancha: Shiguan qianguo qiangjun, Xi zhuxi fachu xin haoling" [First Observations on the Two Sessions: Regarding Strengthening the Country and Strengthening the Army, Chairman Xi Issues New Orders], *People's Daily*, March 9, 2024, <http://lianghui.people.com.cn/2024/n1/2024/0309/c458561-40192160.html>.

which was announced by Xi in December 2015, maintains its capabilities not only for strategic deterrence and “limited nuclear war” but also for “full-scale nuclear war.”⁴

China currently possesses 350–400 nuclear warheads. The number of warheads increases year by year, as does the number of silos. For the needs of all-domain deterrence/compellence warfare, PRC nuclear development focuses on “miniaturization,” “varied models” (for fitting different platforms), and “specialization” (for different purposes such as neutron bombs or electromagnetic pulse weapons). China is also modernizing all three legs of its nuclear triad, including ballistic missiles, cruise missiles, hypersonic weapons, stealth bombers, and submarine-launched systems.

Second, at the official level, China has retained its minimal deterrence strategy and no-first-use policy since the 1964 test. However, the country’s rapidly growing nuclear stockpile is expected to double within one decade and, according to Pentagon estimates, will rise to around 1,500 warheads by 2035.⁵ This increased number will allow China to develop more flexible nuclear strategies in pursuit of its national interests. According to data from international organizations, China’s stockpile of fissile materials in 2022 can support approximately 280 to 430 warheads.⁶ For the purpose of enhancing nuclear capabilities, an increased stockpile of fissile materials is needed.

The ongoing war in Ukraine might give China an outlet for finding these materials, since Russia has been weakened by war attrition and global sanctions. Even before the start of the war, it was believed that Russia’s dependence on China was already increasing. Currently, China and Russia are enhancing mutual cooperation in several areas, including on nuclear weapons. Sino-Russian agreements during Xi’s visit to Russia in March 2023 show progress in nuclear cooperation.⁷ In fact, Russia has been supplying China with fissile materials to support its new reactors in Fujian Province, which faces Taiwan from across the Taiwan Strait.

Third, PLA military exercises practice the potential use of the “new-type warheads” during wartime to “disable the critical nodes of the defensive systems of blue forces,”⁸ although Chinese officials never admit it. In this sense, nuclear or electromagnetic pulse weapons might be used during an invasion of Taiwan, though it is unclear what concepts and doctrines would govern the PRC’s use of tactical nuclear weapons. Considering that China would need the war to end as quickly as possible, and its use of nuclear weapons in exercises, its doctrine might be similar to the classic Soviet directive for supporting conventional offensive operations.⁹ This might especially be the case should an invasion of Taiwan bog down.

⁴ “Xi Jinping xiang zhongguo renmin jiefang jun lu jun huojian jun zhanlue zhiyuan budui shouyu junqi bing zhi xunci” [Xi Jinping Confers a Flag and Delivers Instructions to the People’s Liberation Army, Rocket Force, and Strategic Support Force], *People’s Daily*, January 2, 2016, <http://cpc.people.com.cn/n1/2016/0102/c64094-28003839.html>.

⁵ U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2022* (Washington, D.C., November 2022), 98, <https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.

⁶ Chai Wen-Chung, “Zhongguo hewu nengli de xiankuang yu zouxiang” [The Current State and Future Direction of China’s Nuclear Capabilities], Institute for National Defense and Security Research, 52, November 15, 2022, <https://indsr.org.tw/uploads/indsr/files/202212/ff247c31-42f0-4d99-abac-9b12b0e78219.pdf>.

⁷ “China and Russia Sign Fast-Neutron Reactors Cooperation Agreement,” World Nuclear News, March 22, 2023, <https://world-nuclear-news.org/Articles/China-and-Russia-to-cooperate-on-fast-neutron-react>; and Daniel Shats, “China-Russia Nuclear Industry Cooperation,” China Aerospace Studies Institute, January 16, 2024, <https://www.airuniversity.af.edu/CASI/Display/Article/3642740/china-russia-nuclear-industry-cooperation>.

⁸ “Huojian jun kuaisu fanying chenggong fashe liang mei xinxing daodan” [Rocket Force Quickly Reports the Successful Launch of Two New-Type Missiles], CCTV, August 21, 2021, <https://news.cctv.com/2021/08/21/ARTISNKH0eUQMCD4LPN2C7Go210821.shtml>; and Ge Chong, “Liang mei xinxing daodan fashe baojie: Huojian jun shangyan jingzhun dianxue” [Two New-Type Missiles Successfully Fired: Rocket Force Performs Precision Dim Mak Martial Arts], Wen Wei Po, August 22, 2021, <https://www.wenweipo.com/s/202108/22/AP612163cae4b08d3407d5a31c.html>.

⁹ Under the Soviet doctrine during the Cold War, the Red Army could conduct theater warfare in terms of “the mass delivery of nuclear strikes and by swift troop actions following these strikes.” China might take a similar approach if it were to use tactical nuclear weapons on the battlefield. See Edward L. Warner III, “Soviet Concepts and Capabilities for Limited Nuclear War: What We Know and How We Know It,” RAND Corporation, February 1989, <https://www.rand.org/content/dam/rand/pubs/notes/2007/N2769.pdf>.

All in all, the threat to Taiwan from China's nuclear weapons has gradually increased in recent years. The situation might be even more serious if China increases its arsenal to more than 1,000 warheads by the 2030s. It should be emphasized that the biggest threats to Taiwan are still from conventional-warfare scenarios, including a full-scale invasion or blockade. However, China's increasing nuclear arsenal and capabilities give it greater flexibility for using nuclear weapons in a conflict with Taiwan, if necessary. Besides their actual use, nuclear weapons could be wielded indirectly for coercion and deterrence.

Tools of Coercion and Warfighting

As China enlarges its nuclear arsenal in both quantity and quality, it could use nuclear systems to coerce and deter Taiwan's allies and like-minded countries from providing wartime support, in particular the United States. During Russia's invasion of Ukraine, Russian nuclear weapons have become one of the most important tools of coercion in forcing Western countries to limit weapon donations to Ukraine. If China were to launch an invasion of Taiwan, it might also use its increased nuclear capabilities to similarly coerce democratic countries from intervening. Considering that it would be extremely difficult for partner countries to donate weapons to Taiwan during wartime, Chinese nuclear coercion might even be more effective than Russian coercion has been during the war in Ukraine. In addition, an expanded nuclear arsenal could offer the PLA more flexibility in its tactical uses of nuclear weapons, although concerns of international intervention and escalation might reduce this possibility.

Likely Scenarios for China's Use of Nuclear Weapon–Related Deterrence and Coercion against Taiwan

As mentioned above, China's nuclear weapons would be an effective tool for decreasing international support to Taiwan in response to a Chinese invasion. First, Taiwan is an island close to China but far from allies, so supplies of weapons and materials would be limited by PRC anti-access/area denial capabilities as well as the distance international reinforcements (i.e., the United States) would have to travel to intervene. Second, given that China is "the factory of the world" and one of its biggest markets, countries have much stronger and tighter economic ties with China than with Taiwan. This would also likely decrease the willingness of friends and allies to deliver weapons and material to Taiwan, effectively enhancing China's wartime nuclear coercion. Both China and Russia have weaponized their interdependence in the international system. In fact, the war in Ukraine has revealed that Russia abused weaponized interdependence to downgrade Western support to a certain degree. Given the difficulties that countries would face in supporting Taiwan in wartime, along with their close economic ties with China, Chinese nuclear coercion might be much more effective than Russia's nuclear coercion related to Ukraine.

For instance, as it enlarges its nuclear arsenal during peacetime, China might gradually combine threats of using nuclear weapons for defensive purposes, national sovereignty, and defending against foreign intervention with its sovereignty claims over Taiwan. As China continues to conduct cognitive warfare, coercive messages regarding nuclear weapons could be integrated with Chinese media campaigns and propaganda such as "telling China's story well." This information warfare could gradually make people believe that China will actually use nuclear weapons if the West intervenes in its "unification war."

China's Possible Uses of Nuclear Weapons in Warfighting

In earlier years, the PRC nuclear arsenal was not of great concern to the ROC military. With limited nuclear capabilities, China instead focused on deterring threats from other nuclear powers. However, China's expanded and modernized nuclear capabilities have increased the flexibility of its nuclear strategy, providing opportunities for tactical use.

The most important factor in a Chinese invasion of Taiwan is time. First, China needs to force Taiwan to surrender quickly in order to preempt possible foreign intervention. Second, the legitimacy of the Chinese political leadership, as an authoritarian regime, would be damaged by any military failure, particularly if that failure came during an invasion of Taiwan. In other words, even a delayed advance of the PLA into Taiwan—not even an outright failure—could damage the prestige of Xi and other PRC leaders. In this respect, the use of nuclear weapons during an invasion of Taiwan could prove decisive, in particular if the invasion was largely delayed or even failed in an earlier phase. Nuclear weapons might be a game changer in such a scenario.

Considering the importance of time in a successful invasion, China's tactical use of nuclear weapons could be in support of a “blitzkrieg” to quickly and effectively destroy Taiwan's critical strategic nodes such as command-and-control centers and logistical hubs. Most importantly, the use of such weapons could weaken the will of Taiwan's forces to mount further resistance. Therefore, the threat of nuclear weapon deployment during a war could increase if the initial invasion falters or risks failure. Since nuclear weapons could also be tactically used as a game-changer when the invasion comes to a deadlock, Beijing might decide to use WMDs to avoid political instability and a leadership crisis domestically.

The Possible Threats from Other Types of WMDs

Although other types of WMDs are not emphasized by Xi Jinping, biological and chemical weaponry could still threaten Taiwan's national security, even in peacetime. These weapons could be used for sabotage and creating chaos in Taiwanese society, either after the escalation of cross-strait tensions or in preparation for a full-scale invasion. In this scenario, biological and chemical weapons might be used to attack high-value targets, cause panic in the Taiwanese public, or even damage the Taiwanese social order. China could combine all these means of sabotage with its narrative warfare for creating an excuse to invade Taiwan (e.g., to restore the order of Taiwanese society) or to launch a blockade or quarantine.

Military Policies and Operational Capabilities in Response to China's Nuclear Weapons

Two approaches are being taken by Taiwan to counter China's nuclear coercion. First, it maintains diplomatic and information campaigns to internationalize Taiwanese issues and enhance support from like-minded countries, in particular Indo-Pacific and European powers. Second, Taiwan is increasing its stockpile of necessary weapon systems and munitions and taking other measures to increase its military capabilities. Frankly speaking, these approaches are not special measures against China's nuclear coercion but mainly against China's military coercion in general.

Diplomatic Measures

The first main approach of the Taiwanese government to counter Chinese coercion is diplomacy. Although the use of tactical nuclear weapons in Taiwan might be a threat in the future, nuclear coercion to stop (or at least decrease) Western support for Taiwan would be much more likely. Taiwan not only is concerned about the difficulties of receiving support during a Chinese invasion but also is concerned that other countries might not provide such support during wartime due to Chinese nuclear coercion. Furthermore, “naming and shaming” could help by publicly singling out China for its possible use of WMDs either on the battlefield or indirectly via coercion or blackmail. Russia has used a similar approach to downgrade Western support to Ukraine and has been called out for it; even China has formally declared its opposition to the use of nuclear weapons in the conflict. Naming and shaming should be conducted with like-minded allies.

The internationalization of the security issues across the Taiwan Strait is also a crucial part of Taiwanese diplomatic counter-coercion measures. Similar to the PLA’s daily military incursions into Taiwan’s air defense identification zone, Chinese military/nuclear threats are highly integrated with its “three warfares” (public opinion warfare, psychological warfare, and legal warfare). China’s “three warfares” aim to use the country’s propaganda machine to weaken Taiwan and deny its sovereignty via “legal battlefields.” The internationalization of the Taiwan issue could increase both the psychological resilience of Taiwanese society and Taiwan’s capabilities to counter China’s legal claims, such as that the Taiwan Strait is Chinese territorial water.

Moreover, through increasing its cooperation with like-minded countries, Taiwan could strengthen its deterrence capabilities. Since China wants to avoid foreign intervention in a cross-strait crisis, the more diplomatic ties that Taiwan has with other countries, the greater its capabilities will be to counter Chinese military coercion, including nuclear coercion.

Military Capabilities

The second main approach focuses on military capabilities. With the need to fight asymmetrically, Taiwan is currently focused on increasing its stockpiles of ammunition and improving the survivability of its military units. In particular, it needs to acquire critical weapons systems, including high-value assets such as surface combatants (e.g., Kidd-class destroyers), fighter jets, and expensive air-defense systems, as well as key nodes such as command and control, radar, and other long-range sensors. Taiwan is working to enhance mobility and increase the redundancy of those systems to strengthen their resilience. This is not only vital for asymmetric warfare but also beneficial to maintaining its warfighting capabilities if China uses tactical nuclear weapons.

In addition, in preparing for the worst-case scenario, Taiwan has begun to re-establish the civil-defense measure of educating and training the general populace. This can enhance resilience within Taiwanese society, both psychologically and operationally, and help prepare for the contingency of actual WMD use by China. In fact, during the Cold War, Taiwan employed a range of civil-defense capabilities, some of which could be reconstituted and enhanced with modern technologies. For instance, Taiwan is currently reintroducing air raid shelters and using website and smartphone applications to release information to the public. All these measures could combine more with emerging technologies such as low-orbit communication satellites (e.g., Starlink and OneWeb) and unmanned vehicles to strengthen social resilience.

Policy Options for the United States

The United States could take the following actions to support Taiwan. First, it could extend the current military exchanges, including by sending more observers and advisers, to support Taiwan's reorganization of its armed forces and strengthen the mission command military culture. "Mission command" refers to an approach for command and control that empowers subordinates to conduct a mission with their own decision-making within the commander's intention and could "empower agile and adaptive leaders in the conduct of unified land operations."¹⁰ The main focus should be on supporting Taiwan's military reforms to rebuild the ROC military into a more decentralized and flexible armed force. A decentralized and flexible military could enhance survivability when facing a possible WMD attack.

Second, the United States could further support Taiwan by introducing more modern technologies to enhance command-and-control capabilities and communications. Once the ROC military is more flexible and mission command-oriented, the effectiveness of nuclear weapons in destroying critical strategic nodes would be reduced (even though WMDs could still destroy the defender's will to resist). Reforming the ROC military would make the tactical use of a nuclear weapon less attractive to PRC decision-makers.

Third, the United States should increase its diplomatic reach. The United States could do so by encouraging allies and other like-minded countries to place greater political pressure on China in order to discourage its use of WMDs against Taiwan (or elsewhere). In view of Taiwan's international status and diplomatic situation, the previously discussed naming and shaming should also be conducted by the United States and its allies. Given that much of China's coercive and deterrent power vis-à-vis Taiwan derives from its military might, similar shows of force and resilience will be needed to achieve effective deterrence.

Finally, the ongoing war in Ukraine has revealed that the willingness of other countries to intervene and assist is critically vital when deterring an aggressor. The United States and its partners should focus on a counter-coercion strategy in response to Russian and Chinese coercion efforts. China is carefully observing how the United States and others have responded to Russian aggression—including Russia's threat to use WMDs. Should these responses to counter Russian coercion fail, China may be more willing to wield nuclear or other WMD threats. Strengthening U.S. nuclear deterrence could be an approach, although it might also increase the risk of escalation. Thus, a more comprehensive approach that gauges China's intentions of actually using WMDs is needed. The United States and its allies and partners could develop a clearer index to assess China's intention of using WMDs, and in particular nuclear weapons. The index might mix comprehensive approaches with the assessment of China's preparation of its nuclear arsenal, among other factors. Once the democratic countries precisely assess the PRC's intentions, it would be much harder for the Chinese government to achieve its political goals via nuclear coercion. The threats from other WMDs would also be largely diminished.

¹⁰ James D. Sharpe Jr. and Thomas E. Creviston, "Understanding Mission Command," U.S. Army, April 30, 2015, https://www.army.mil/article/106872/understanding_mission_command.

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India's Changing Attitude toward Nuclear Expansion

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EXECUTIVE SUMMARY

This essay examines the development of China's nuclear forces and assesses the impact on India.

MAIN ARGUMENT

India had traditionally not been overly concerned about China's nuclear capability, despite China's clear nuclear superiority. But the expansion and modernization of China's nuclear arsenal are likely to lead to a change in Indian attitudes, especially given the contentious nature of relations between the two countries. This will not be ameliorated even if China were to maintain its official no-first-use doctrine. India's concerns will likely grow if China seeks nuclear parity with the U.S., which would result in a massive nuclear disparity between India and China. Even though India will not seek to match China's nuclear expansion, it will accelerate the pace of development and deployment of a more effective deterrent capability.

POLICY IMPLICATIONS

- India's rather relaxed approach to China's nuclear capabilities could come under pressure and compel India to respond in qualitative terms and revise its doctrine.
- China's possible strategic assistance to Pakistan in the form of sea-based deterrent forces or multiple independently targetable re-entry vehicle capabilities for Islamabad's intermediate-range ballistic missiles could make India's deterrent calculations in southern Asia considerably more complicated.
- If China's nuclear expansion results in a Sino-U.S. arms race, this could have unpredictable consequences for the Indo-Pacific, including the potential for additional nuclear proliferation. Even U.S. allies such as Japan and South Korea might contemplate the development of nuclear weapons of their own.

China is currently in the midst of what appears to be a large expansion of its nuclear forces. The country's opacity makes it difficult to understand the extent or purpose of this expansion. An examination of the Chinese literature over the last few years, however, indicates that the current nuclear expansion may be part of President Xi Jinping's enunciation at the 20th Party Congress in October 2022 about the need to "establish a strong system of strategic deterrence, increase the proportion of new-domain forces with new combat capabilities, speed up the development of unmanned, intelligent combat capabilities, and promote coordinated development and application of the network information system."¹ Similarly, in his 14th Five-Year Plan for 2021–25, Xi focused on the need for "building high-caliber strategic deterrence and joint operation systems."²

This essay examines the development of China's nuclear forces and assesses the impact on India. In particular, it examines the specific systems that present a direct threat to India, some of the likely indirect threats, India's responses to these threats, and the prospects for U.S.-India cooperation in dealing with these threats. Although Xi's official statements provide a sense of the Chinese rationale, they are insufficient to understand the logic of China's nuclear expansion. As such, the assessment here is necessarily tentative and will need to be updated as new information becomes available about the drivers of China's nuclear expansion and, in turn, about India's response.

Key Indian Concerns

India has been concerned about a nuclear threat from China since the 1960s. It nonetheless had initially hoped to avoid responding with its own nuclear weapons program, relying instead on nuclear guarantees from the United States and the Soviet Union.³ Though India did test a nuclear device in 1974, the specific motivations for the test remain unclear. By the 1980s, India had restarted its nuclear weapons program, achieving a weapons capability by the end of the decade. However, this was driven by concerns not so much about China as about Pakistan, its western neighbor, whose own nuclear weapons program was also maturing. India did indicate that its nuclear tests in 1998 were driven by security concerns vis-à-vis China, but whether this was the primary motivation is unclear. In addition to concerns about Pakistan's nuclear weapons program, India was also under pressure from the United States and others to sign the Comprehensive Test Ban Treaty, which would have limited any further development of its nuclear weapons program. Thus, despite concerns about China's nuclear weapons program, this was likely not the sole or even the primary driver of India's nuclear weapons program until 1998. Subsequently, however, India's nuclear weapons program has been reoriented to focus much more on China.

A Large Arsenal

China's limited nuclear arsenal and no-first-use (NFU) policy meant that India did not fear any serious nuclear escalation threats from China, especially compared with Pakistan. Although this

¹ "Transcript: President Xi Jinping's Report to China's 2022 Party Congress," *Nikkei Asia*, October 18, 2022, <https://asia.nikkei.com/Politics/China-s-party-congress/Transcript-President-Xi-Jinping-s-report-to-China-s-2022-party-congress>.

² National Committee of the Chinese People's Political Consultative Conference, "Xi's Two Sessions Messages Point Way for China at Historic Development Juncture," *Xinhua*, March 10, 2021, http://en.cppcc.gov.cn/2021-03/10/c_600432.htm.

³ Andrew B. Kennedy, "India's Nuclear Odyssey: Implicit Umbrellas, Diplomatic Disappointments, and the Bomb," *International Security* 36, no. 2 (2011): 120–53.

assessment is now complicated by China's nuclear force expansion, NFU still appears to be the country's nuclear doctrine. Going by the latest estimates from the Stockholm International Peace Research Institute (SIPRI), China's nuclear warheads increased from 350 in January 2022 to 410 in January 2023.⁴ This number has now increased to 500, according to the *Bulletin of the Atomic Scientists' 2024 Nuclear Notebook*. As Hans Kristensen of the Federation of American Scientists points out, "It is increasingly difficult to square this trend with China's declared aim of having only the minimum nuclear forces needed to maintain its national security."⁵

Undoubtedly, even if it was not expanding its nuclear force, China has been reviewing and improving its nuclear capabilities. Some of the qualitative changes include moving from liquid- to solid-fueled missiles and developing multiple independently targetable re-entry vehicle (MIRV) capabilities. As for China's nuclear triad, it has established a "rudimentary" one, keeping in line with its NFU and assured retaliatory second-strike capability requirements.⁶ However, recent reports about at least three large sets of missile silos under construction near Yumen, Hami, and Ordos in northcentral China could eventually complicate India's nuclear calculations.⁷ At present, China's nuclear expansion is likely aimed at the United States rather than India, and therefore India appears to be maintaining a relaxed approach to it. Nevertheless, if China continues this expansion and exceeds one thousand warheads, India might feel compelled to rethink whether it needs a larger nuclear force in order to maintain a credible minimum nuclear deterrent. In fact, many Indian analysts argue that even though India may not be the primary target, it cannot ignore China's nuclear expansion.⁸

In fact, the suspected ongoing massive expansion of China's nuclear forces could represent serious future concerns for India. China's current nuclear arsenal of approximately three hundred to four hundred nuclear warheads subject to a NFU doctrine is what India has comfortably lived with for many decades. If China now seeks to achieve parity with U.S. nuclear forces, it will require a nuclear arsenal of several thousand warheads. Such an expansion would hugely complicate the effectiveness of India's minimum nuclear deterrent, giving China a first-strike advantage that could possibly call into question India's own NFU doctrine. So far, the smaller size of China's nuclear arsenal has meant that it does not have a coercive element. Indian analysts, however, argue that growing asymmetry could introduce an element of "nuclear coercion" into bilateral disagreements.⁹

Land-Based Nuclear Forces

Of particular concern to India is China's arsenal of land-based long-range nuclear-tipped missiles. This includes both intercontinental ballistic missiles (ICBMs) and intermediate-range

⁴ "States Invest in Nuclear Arsenals as Geopolitical Relations Deteriorate—New SIPRI Yearbook Out Now," SIPRI, Press Release, June 12, 2023, <https://sipri.org/media/press-release/2023/states-invest-nuclear-arsenals-geopolitical-relations-deteriorate-new-sipri-yearbook-out-now>.

⁵ Ibid.

⁶ China's sea-based capabilities, in particular, are considered "rudimentary and still evolving" because of the advanced nature of U.S. antisubmarine warfare capabilities. See Caitlin Talmadge, "The U.S.-China Nuclear Relationship: Growing Escalation Risks and Implications for the Future," testimony before the U.S.-China Economic and Security Review Commission, Hearing on China's Nuclear Forces, Washington, D.C., June 7, 2021, https://www.uscc.gov/sites/default/files/2021-06/Caitlin_Talmadge_Testimony.pdf.

⁷ Matt Korda and Hans Kristensen, "A Closer Look at China's Missile Silo Construction," Federation of American Scientists, November 2, 2021, <https://fas.org/publication/a-closer-look-at-chinas-missile-silo-construction>.

⁸ Author's interviews with Indian experts and analysts as part of a larger study on India's assessment of and response to China's nuclear developments that was conducted in April 2023.

⁹ P.R. Shankar, "Indian Response to Chinese Nuclear Weapon Expansion," *Financial Express*, June 5, 2023, <https://www.financialexpress.com/business/defence-indian-response-to-chinese-nuclear-weapon-expansion-3114025>.

ballistic missiles (IRBMs), which China has produced for regional deterrence. China's ICBMs are probably focused on deterring the United States, but nevertheless they could also potentially target India, even if it is not their primary target. China's ICBM fleet includes various versions of the DF-5/CSS-4 missiles, which have been deployed since the 1980s. These have a range of well over 10,000 kilometers (km). The DF-5 missiles are liquid-fueled and silo-based, and some of the later versions also have MIRVed warheads (possibly as many as five on each missile). These ICBMs are relatively old now and have significant disadvantages because they are liquid-fueled and silo-based. Liquid-fueled means that they could not be launched very quickly in a contingency. Silo-basing is also a potential disadvantage because silo-based missiles are fixed and can be easily targeted during a conflict.

China now appears to be transitioning toward solid-fueled mobile missiles such as the DF-31. The DF-31 has a range of around 7,000 km and is road-mobile. Given its range, this missile would likely be used to target India and other regional adversaries. The DF-31 is a particular concern not only because of its range but also because it is both solid-fueled and road-mobile. Solid fuel makes missiles available for fairly rapid launch, and road mobility means that they are more difficult to target. China also appears to have started deploying DF-41 missiles, which have a range of 12,000 km. The DF-41 is also road- and rail-mobile, which makes these missiles much harder to target in wartime.

While the ICBMs are a concern, especially the regionally focused DF-31s, the primary concern for India would come from land-based IRBMs. These include the old DF-4/CSS-3, the later DF-21/CSS-5, and the recently developed DF-26 IRBMs. The liquid-fueled DF-4, with a range of around 5,000 km, is being retired and replaced with the solid-fueled and road-mobile DF-21 and its variants. However, the range of the DF-21 (around 2,000 km) is not sufficient to reach most of India, especially since most DF-21 bases do not appear to be located anywhere near the Sino-Indian border. There have been some rumors of DF-21s being based in Delingha, Tibet, but these have not been verified. It must be noted that even if based in Delingha, these missiles will only cover northern India. On the other hand, because they are road-mobile missiles, the possibility that they could be moved closer to Indian territory if the need arose cannot be ruled out. The DF-21 also appears to be dual-use, having both nuclear and conventional warheads, which potentially raises problems of discrimination if it is used in a war. In other words, if Indian early-warning systems were to detect a DF-21 being launched at India, this situation would create a quandary for decision-makers because they would not be able to tell whether the incoming missiles were conventionally armed or nuclear-tipped.

Recently, China appears to be in the process of replacing the DF-21 with the DF-26 IRBM, which also is solid-fueled and road-mobile and has both nuclear and conventional warhead variants. DF-26 missiles would present a similar problem of discrimination if they were used in combat. The DF-26s have double the range of the DF-21s at around 4,000 km, making them more suitable for nuclear deterrence against India. Both the DF-21 and DF-26 also have an anti-ship role. This, however, is not much of a concern to India because the range is probably insufficient to be a threat to the Indian Navy. China's anti-ship ballistic missile forces appear to be primarily focused on adversarial naval forces in the South China Sea rather than on the Indian Navy.

Sea-Based Deterrent Forces

China's sea-based capabilities are rather potent and include six Jin-class Type 094 nuclear submarines carrying long-range nuclear missiles. Each of the Jin-class submarines can carry twelve JL-2/CSS-N-14 submarine-launched ballistic missiles (SLBMs). The JL-2 SLBM has a range of 7,000 km and is thought to be a variant of the land-based DF-31 IRBM. This range is sufficient to target any part of India, even if fired from near Hainan Island, which is where the Jin-class submarines are based. However, these nuclear-powered ballistic missile submarines (SSBNs) do not appear to be very advanced, and it is unclear whether they actually undertake deterrent patrols. Thus, their operational status is unclear. Recent reports indicate that China has armed the Jin-class submarines with the even longer-range JL-3 SLBM. This missile is reported to have a range of 12,000 km and can carry multiple warheads on each missile.¹⁰ Therefore, the Jin-class SSBNs and JL-3 SLBMs represent an important nuclear deterrent capability for India to consider. Moreover, China is likely to launch the newer Type 096 SSBNs, which are expected to be quieter and more capable than the Jin-class.¹¹ The Type 096 is also expected to undertake deterrent patrols more routinely.

Air-Based Deterrent Forces

The air-based deterrent force is probably the weakest leg of China's nuclear triad. Currently, China has only one bomber that is thought to have nuclear capability: the Xian H-6 twin-engine subsonic long-range bomber. The H-6 is a variant of the Soviet era Tupolev Tu-16. Considering its 1960s vintage, this aircraft does not represent much of a threat for modern air defense systems, despite modifications made to the aircraft and its systems. However, the H-6 can also carry the 1,500-km-range CJ-10 cruise missile, which can possibly be armed with a nuclear warhead. This would allow the H-6 to release its payload from within Chinese territory, which would make it difficult for Indian air defense systems to intercept an attack. There are also rumors that China is testing the H-6 with an air-launched ballistic missile called the CH-AS-X-13, a version of the DF-21 ballistic missile. If deployed, this would again allow the H-6 to release its payload from within Chinese territory and potentially create problems for India's air defense. Thus, the H-6 will possibly continue to remain the backbone of China's air-based deterrent force well into the 2030s, according to some analysts, and its primary role might be as one element of China's anti-access/area-denial strategy rather than nuclear delivery.¹²

China is also rumored to be building a follow-on long-range bomber called the H-20. The H-20 is thought to be similar to the U.S. B-2 stealth bomber. This new bomber is reported to have a range of more than 8,000 km and a payload of more than ten tons.¹³ Given its stealth capabilities, if this bomber does materialize and its features are as impressive as reported, it could represent a serious threat to India. But considering that the aircraft has not yet been tested, its deployment is at least a decade away.

¹⁰ Aadil Brar, "China's JL-3 Missile Can't Cover the U.S. Mainland. But It Has Implications for India," *Print*, November 21, 2022, <https://theprint.in/opinion/chinas-jl-3-missile-cant-cover-the-us-mainland-but-it-has-implications-for-india/1227323>.

¹¹ Greg Torode and Eduardo Baptista, "Analysis: China's Intensifying Nuclear-Armed Submarine Patrols Add Complexity for U.S., Allies," *Reuters*, April 4, 2023, <https://www.reuters.com/world/chinas-intensifying-nuclear-armed-submarine-patrols-add-complexity-us-allies-2023-04-04>.

¹² Greg Waldron, "H-6 Evolves from Cold War Relic to Beijing's Hammer," *FlightGlobal*, September 4, 2020, <https://www.flightglobal.com/featured/h-6-evolves-from-cold-war-relic-to-beijings-hammer/140043.article>.

¹³ Minnie Chan, "High Hopes of China's H-20 Stealth Bomber Launch as PLA Top Brass Vow Weapon System Upgrades," *South China Morning Post*, November 11, 2022, <https://www.scmp.com/news/china/military/article/3199354/high-hopes-chinas-h-20-stealth-bomber-launch-pla-top-brass-vow-weapon-system-upgrades>.

Tactical Nuclear Weapons

The other possible nuclear threat that India faces is from China's tactical nuclear weapons. Although there have been persistent reports that China possesses some tactical nuclear weapons, the growing consensus appears to be that there is no evidence that its nuclear arsenal includes such weapons.¹⁴ The Indian and Chinese militaries are in active confrontation across the Line of Actual Control, which divides the two forces at their disputed border. Over the last decade, there have been repeated clashes, including one in the Galwan Valley in 2020 that killed twenty Indian military personnel and an unknown number on the Chinese side. Both sides have rapidly increased their deployed forces, which are now arrayed against each other in very large numbers and prepared for battle. A war, therefore, cannot be ruled out. If the confrontation boils over into a war, the question of whether China possesses tactical nuclear weapons will be of more than theoretical interest to India.

It is unclear how tactical nuclear weapons fit within China's NFU doctrine. Beyond the question of doctrine, it is also unclear what potential role tactical nuclear weapons might play in the context of a Sino-Indian border confrontation. That China would use tactical nuclear weapons to break through Indian defenses, or even might employ them to prevent an Indian breakthrough, appears highly unlikely. Although China is prepared to fight over the disputed territory, it is highly unlikely to be willing to use nuclear weapons in such a conflict, given the relatively limited stakes, the threat of nuclear escalation, and the likelihood that other powers would respond unfavorably if nuclear weapons were used. Thus, even though India cannot entirely dismiss the possibility that China might have and use tactical nuclear weapons, this is currently not a prominent concern. However, if the ongoing expansion of China's nuclear forces should end up including tactical nuclear weapons, that development would represent a potential future concern.

Indirect Threats

The most consequential indirect nuclear threat from China is the transfer of some of the nuclear technologies and systems to India's other nuclear adversary, Pakistan. There is a long history of China transferring nuclear and missile technologies to Pakistan, including not only missile systems such as the M-9 and the M-11 but also actual weapons designs. Its nuclear assistance arguably accelerated Pakistan's nuclear weapons program in the 1980s. China's motivation here is unclear, but it could have been to create a balance in South Asia to constrain India. If this reading is correct, China might want to continue providing strategic assistance to Pakistan, especially considering the growing power gap between the two South Asian powers. There is some concern that China might transfer sea-based systems, other intermediate-range missile technologies, or MIRV technology to Pakistan. Pakistan has tried hard to develop a sea-based arm to its deterrent forces, without much success so far. Similarly, China could help Pakistan with MIRV technology for its existing IRBMs, which would greatly increase its warhead count. This assumes, of course, that Pakistan has the fissile material for additional nuclear warheads.

Another indirect threat would emerge if the current expansion of China's nuclear forces leads to an arms race between the United States and China, which could proceed in unforeseen directions as a consequence of the action-reaction phenomenon. A Sino-U.S. arms race could have unpredictable consequences in the Indo-Pacific and potentially lead to further nuclear

¹⁴ David Logan, "The Dangerous Myths about China's Nuclear Weapons," War on the Rocks, September 18, 2020, <https://warontherocks.com/2020/09/the-dangerous-myths-about-chinas-nuclear-weapons>.

proliferation if U.S. allies such as South Korea, Japan, and Australia begin to consider developing their own independent nuclear forces. Finally, a renewed arms race would also mean that the current stalemate in global arms control would continue, leading to additional tensions and possibly greater dangers.

The Indian Response

Both India and China have adopted NFU nuclear doctrines. Until recently, their nuclear forces also appeared to have been structured in a way that would have prevented rapid escalation or first use of nuclear weapons. For example, both have fairly small nuclear forces, and these nuclear forces also appear to have adopted a de-alerted and de-mated posture. However, some of these facts are changing because both forces are now adopting canisterized mobile long-range nuclear forces. Canisterized nuclear missiles would suggest that these are now mated with their warheads and are therefore ready to fire. Nevertheless, both China and India continue to insist that their nuclear forces remain tied to NFU doctrines. Although an unstated nuclear deterrent relationship already exists simply because both sides have nuclear forces, specific deterrent or coercive threats are unlikely. As stated earlier, the unsettled border issue and several confrontations over the last decade raise at least the theoretical possibility of nuclear escalation from a conventional border war.

As of now, however, the threat of escalation is low. Neither India nor China appears to have invested in tactical nuclear weapons, nor does either have a military doctrine tied to nuclear warfighting. Yet China's development of a launch-on-warning approach to nuclear weapons could diminish the utility of its NFU policy. This section considers the Indian response to the direct and indirect threats discussed in the previous section.

Over the last two decades, India's nuclear forces have been increasingly structured to focus on deterring China. For example, India is continuing to develop longer-range missiles because its current long-range systems do not cover all of China, unless placed uncomfortably close to the border. Given that India does not need missiles with such ranges to counter Pakistan, the development of these systems is clearly focused on China. Despite such efforts, India continues to have a consequential gap with China in terms of delivery systems. Its longest-range missile (Agni 5), which has a range of 5,000 km, cannot fully cover China. More importantly, it is unclear whether the Agni 5 has been deployed yet.¹⁵ In December 2022 the Strategic Forces Command—which manages all of India's nuclear forces—carried out a successful test flight of the missile. The command independently tested the missile for the first time in October 2021.¹⁶ India needs to develop missiles with a range of 7,000 km or more to target all of China. As of now, the longest of India's deployed missiles, Agni-2, has a range of only 2,000 km.¹⁷ In addition to the Agni 5, the Indian Defence Research and Development Organisation is reportedly developing a longer-range missile, the Agni 6, with a range of 6,000 km. But this is still in the developmental stage, and

¹⁵ Hemant Kumar Rout, "India Plans Deployment of Nuclear-Capable Agni-V This Year," *New Indian Express*, January 4, 2021, <https://www.newindianexpress.com/nation/2021/jan/04/india-plans-deployment-of-nuclear-capable-agni-v-this-year-2245188.html>.

¹⁶ "What Is Agni-5, the Long-Range Nuclear Capable Missile That India Has Tested?" *Indian Express*, December 17, 2022, <https://indianexpress.com/article/explained/explained-sci-tech/what-is-agni-5-nuclear-missile-explained-8328180>.

¹⁷ Y. Mallikarjun, "Agni-II Test-Fired for Full 2,000-Kilometer Strike Range," *Hindu*, November 9, 2014, <http://www.thehindu.com/news/national/agniii-ballistic-missile-successfully-testfired/article6580146.ece>.

considering the generally slow pace of Indian missile development, it will be more than a decade before the Agni 6 is ready for deployment.

This is a critical drawback for India considering the nuclear capabilities already developed by both China and Pakistan. Though Pakistan is not the focus of this essay, possible collusion between the two countries is on the radar of Indian decision-makers. While Indian analysts accept that it is challenging to deal with two nuclear adversaries simultaneously, they also discount the possibility that India will face a joint and coordinated nuclear threat from them.¹⁸

Critical gaps in India's land-based nuclear capabilities exist despite the fact India established the Integrated Guided Missile Development Programme (IGMDP) in the mid-1980s for the development of several missiles, including long-range ones. India still does not have an operational Agni-5, which is only an IRBM. The IGMDP was an initiative that began under the leadership of A.P.J. Abdul Kalam, one of India's foremost scientists and a former president, who led India's missile program. So far, India has only produced short- and medium-range Agni missile systems, ranging from 700 to 5,000 km. In June and December 2021, October 2022, and June 2023, India tested its new Agni-P medium-range ballistic missile from its Integrated Test Range off the coast of Odisha.¹⁹ Though the missile has a range of only 1,000–2,000 km, it is a canisterized missile, which means that it is mobile and can be launched from road and rail platforms. Canisterization also means that these missiles are "easier" to deploy and "quicker" to launch.²⁰ Even though the Agni-P is touted as a new generation missile with a nuclear deterrent role like the Agni-5, the range of the missile suggests that it will not be particularly useful against China.²¹ India's ability to develop and deploy a full-range ICBM appears to be some time away.

Similarly, India's focus on building SSBNs with long-range missiles also appears to be a direct response to China. The country's pursuit of this goal is understandable. India wants to enhance its second-strike retaliatory capabilities, and SSBNs promise greater survivability. Given that India is new to building its own SSBNs, this program is a work in progress and remains more akin to a technology demonstrator. The current submarines are underpowered, and it will take a few years before India can develop a better SSBN. Similarly, the SSBN force itself is likely to expand in order to permit at least a couple of its submarines to be deployed on deterrent patrols at all times. To maintain a credible sea-based deterrent, India would need at least four SSBNs—one on deterrent duty and others in transit or under maintenance.

The first of the four SSBNs, *Arihant*, was deployed in 2016. The second submarine, *Arighat*, after facing nearly four years of delay, is scheduled to be commissioned by the end of 2024.²² The third one, the S-4, has reportedly already been launched.²³ The last two Arihant-class submarines

¹⁸ Author's interviews with Indian analysts in April–May 2023.

¹⁹ "Agni Prime' Ballistic Missile Successfully Flight-Tested by DRDO Off Odisha Coast," Ministry of Defence (India), Press Release, June 8, 2021, <https://pib.gov.in/PressReleasePage.aspx?PRID=1930689>; Matt Korda and Hans Kristensen, "India's Nuclear Arsenal Takes a Big Step Forward," Federation of American Scientists, December 23, 2021, <https://fas.org/publication/indias-nuclear-arsenal-takes-a-big-step-forward/>; and Rimjhim Singh, "What to Expect from Agni-Prime, the New Generation Ballistic Missile," *Business Standard*, June 9, 2023, https://www.business-standard.com/india-news/what-to-expect-from-agni-prime-the-new-generation-ballistic-missile-123060900555_1.html.

²⁰ "What Is Agni-5, the Long-Range Nuclear Capable Missile That India Has Tested?"

²¹ The Agni-P missile comes with more advanced rocket motors, propellants, avionics, maneuverable re-entry vehicle, and dual-redundant navigation and guidance systems.

²² Shishir Gupta, "Aircraft Carrier INS *Vikramaditya* Is Back on High Seas," *Hindustan Times*, February 19, 2023, <https://www.hindustantimes.com/india-news/aircraft-carrier-ins-vikramaditya-is-back-on-high-seas-101676775908275.html>; and Manish Kumar Jha "India's Nuclear Submarine Secrecy: Boosting Naval Firepower," *Financial Express*, March 1, 2023, <https://www.financialexpress.com/business/defence-indias-nuclear-submarine-secrecy-boosting-naval-firepower-2996559>.

²³ Rahul Bedi, "India Quietly Launches Third Arihant-Class Nuclear-Powered Submarine: Report," *Wire*, December 30, 2021, <https://thewire.in/security/india-quietly-launches-its-third-arihant-class-nuclear-powered-submarine-report>.

(codenamed S-4 and S-4*) will be able to carry six missiles each, as opposed to four each in INS *Arihant* and INS *Arighat*.²⁴ Once the four Arihant submarines are commissioned, India will shift its attention to a new design called the S-5 class. S-5s are reportedly twice the weight of the Arihant-class submarine and will be armed with twelve strategic missiles.²⁵ With work on the S-5 beginning only in 2022, the first of the S-5-class submarines is expected to be ready for commissioning by the Indian Navy in 2031–32.²⁶ The S-5s reportedly will be armed with twelve or sixteen longer-range K-6 SLBMs, and each will be equipped with MIRVs.²⁷

Although its current SLBMs only have the range to cover a small part of China, India can be expected to continue developing longer-range missiles like the K-6s that can be deployed on its new SSBNs. The two current SLBMs for the SSBNs—the 700-km-range K-12 and the 3,500-km-range K-4 SLBMs—do not have sufficiently long range to cover most of China, especially if the submarines are deployed in the Bay of Bengal. The persistent nature of the threat from China means that India will continue investing in and expanding these missiles. In fact, India is working on successor missiles that have longer range—K-5 and K-6 missiles, with a range of 5,000–6,000 km or even longer—but these are in the developmental stages. It will likely be at least a decade before the missiles are ready for deployment.²⁸

As for India's air-based deterrent, until 2003 fighter bombers were the only nuclear delivery system that the country had as part of its nuclear strike system. Since then, India has developed a variety of capabilities, including its land-based missiles and SLBMs. However, as Hans Kristensen and Matt Korda point out, "aircraft continue to serve a prominent role as a flexible strike force."²⁹ But the air-based assets of India's nuclear triad have their own challenges, especially if one were to consider the difficulty of dealing with the growing sophistication of China's air defense network. The Indian inventory of aircraft for nuclear deterrent purposes includes the Mirage 2000H, Jaguar IS, and Rafale. The Jaguars are very old and are likely to be retired soon. The Indian Air Force chief had already stated that by early 2020 six Jaguar squadrons of approximately 108 fighters would begin retiring from service.³⁰ However, this has been postponed to 2024 because of the need to maintain an adequate number of squadrons against both China and Pakistan.³¹ Meanwhile, there have been unconfirmed reports that the Indian Strategic Forces Command had started taking delivery of 42 Su-30MKI fighter jets equipped with nuclear-tipped supersonic Brahmos cruise missiles.³²

²⁴ Rajat Pandit, "Nuclear Submarine INS *Arihant* Completes Patrol, Country's N-Triad Operational," *Times of India*, November 6, 2018, <https://timesofindia.indiatimes.com/india/as-nuclear-sub-arihant-returns-after-first-deterrence-patrol-indias-nuclear-triad-complete/articleshow/66515624.cms>.

²⁵ Sandeep Unnithan, "A Peek into India's Top Secret and Costliest Defence Project, Nuclear Submarines," *India Today*, December 18, 2017, <https://www.indiatoday.in/magazine/the-big-story/story/20171218-india-ballistic-missile-submarine-k-6-submarine-launched-drdo-1102085-2017-12-10>.

²⁶ Raunak Kunde, "Indian Navy's S5 Program and P76 Get Priority over SSN Program," Indian Defence Research Wing, May 3, 2023, <https://idrw.org/indian-navys-s5-program-and-p76-get-priority-over-ssn-program>.

²⁷ Saurav Jha, "India's Undersea Deterrent," *Diplomat*, March 30, 2016, <https://thediplomat.com/2016/03/indias-undersea-deterrent>.

²⁸ Rajat Pandit, "Nuclear Submarine INS *Arihant* Completes Patrol, Country's N-Triad Operational," *Times of India*, November 6, 2018, <https://timesofindia.indiatimes.com/india/as-nuclear-sub-arihant-returns-after-first-deterrence-patrol-indias-nuclear-triad-complete/articleshow/66515624.cms>.

²⁹ Hans M. Kristensen and Matt Korda, "Indian Nuclear Weapons, 2022," *Bulletin of the Atomic Scientists* 78, no. 4 (2022): 224–36.

³⁰ Ajai Shukla, "Air Force Chief Outlines Plan to Solve Shortage of Fighter Squadrons," *Business Standard*, October 5, 2019, available at <https://www.ajaiishukla.com/2019/10/air-force-chief-outlines-plan-to-solve.html>.

³¹ Ajai Shukla, "Cost Versus Combat Edge: Future of IAF's Jaguar Fleet Is Hanging in the Balance," *Business Standard*, June 18, 2021, available at <https://www.ajaiishukla.com/2021/06/cost-versus-combat-edge-future-of-iafs.html>.

³² Zachary Keck, "India's Su-30 Jets Are Now Armed with Nuclear BrahMos Cruise Missiles," *National Interest*, January 9, 2020, <https://nationalinterest.org/blog/buzz/indias-su-30-jets-are-now-armed-nuclear-brahmos-cruise-missiles-112016>; and Franz-Stefan Gady, "India's Air Force to Start Receiving Nuclear-Capable Cruise Missile in 2018," *Diplomat*, November 14, 2017, <https://thediplomat.com/2017/11/indias-air-force-to-start-receiving-nuclear-capable-cruise-missile-in-2018>.

Therefore, India's nuclear weapons program will continue to evolve, albeit at a slow but steady pace, with a focus on both quantitative and qualitative enhancement of capabilities. In order to improve the survivability of its nuclear forces and ensure a credible second-strike capability, India will likely increasingly focus on its sea-based deterrent capability. But having faced many delays in acquiring SSBNs, and with underpowered submarines and the inadequacy of the missiles in terms of their range, it appears that the country's sea-based deterrent will be a work in progress for another decade or so. Meanwhile, India is paying a fair amount of attention to its land-based deterrent capabilities until the sea-based ones are more credible.

Enhancing the Partnership with the United States

Considering the United States' nuclear nonproliferation policies as well as its domestic legislation, it is unlikely that there will be any avenue for direct cooperation between the United States and India on the nuclear weapons front. India is not a signatory to the Nuclear Non-Proliferation Treaty, and there is little chance that the rules will be changed to accommodate India or that India will give up its nuclear weapons and join the treaty. Thus, its nuclear status is likely to preclude any direct cooperation between the two states on nuclear weapons.

There have been some proposals for the United States to support India in acquiring nuclear submarines from other countries such as France.³³ This appears rather unlikely in the immediate future, but other avenues exist for cooperation between India and the United States. These include reconnaissance and intelligence sharing, which have become particularly important in the context of China's sudden and surprising move to expand its nuclear arsenal. Both India and the United States have an interest in not only understanding why China is undertaking this expansion but also gathering details about the expansion, including the kind of systems that China might deploy, the purposes of the large new silo fields that have been discovered, and how China might employ its expanded nuclear forces. In addition, the United States and India could cooperate on monitoring the Chinese SSBN fleets, especially since China is likely to have a new class of nuclear submarines that might engage in more active deterrent patrolling than has been the practice so far. India and the United States could also seek to develop ways in which a more intense nuclear arms race does not lead to greater nuclear danger by jointly seeking new crisis management approaches with China as well as by attempting to reinvigorate global nuclear arms control. The United States has helped India with intelligence over the last few years, especially during periods of confrontation with China. India and the United States also already engage in some level of coordination on maritime security. This history provides a basis for the two partners to expand future cooperation.

Conclusion

China's nuclear expansion, including its delivery systems, has important consequences for India. While China may be advancing its capabilities with the United States in mind, it has an entire array of systems with which to target India and other Indo-Pacific powers. Its IRBMs are

³³ Ashley J. Tellis, "Striking Asymmetries: Nuclear Transitions in Southern Asia," Carnegie Endowment for International Peace, 2022, https://carnegieendowment.org/files/202207-Tellis_Striking_Asymmetries-final.pdf.

particularly concerning for countries such as India and Japan, with which China has several disputes, including over unresolved border and territorial issues.

Given the history of conflict and the adversarial nature of relations between the two countries, China's nuclear developments, including possible changes in its nuclear posture, pose direct and indirect threats to India, even if China does not openly renounce its NFU doctrine. While China's traditionally modest nuclear capabilities and posture have not been viewed as destabilizing by the Indian strategic community, any rapid expansion and pursuit of nuclear parity with the United States could push India to shake off its lethargic nuclear weapons development and enhance its own nuclear program. India may not pursue a larger nuclear arsenal to match China's, but it is likely to accelerate the development and deployment of its longer-range delivery systems.

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China's Nuclear Modernization and Its Implications for Japan

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EXECUTIVE SUMMARY

This essay assesses the direct and indirect threats that China's modernization of its nuclear capabilities pose for Japan, examines how Japan is responding to these threats, and considers the opportunities for further cooperation with the U.S.

MAIN ARGUMENT

Security concerns related to China have been rapidly increasing in Japan. Although China's growing nuclear capabilities are not said to be directed at Japan, there are indeed concerns within the Japanese community about the potential use of nuclear weapons by China. Moreover, the indirect threats of China's military buildup have stimulated Japanese policymakers to reconsider and re-evaluate security policies. The most significant shift is the renewal of Japan's National Security Strategy, National Defense Strategy, and Defense Buildup Program in 2022. At the same time, Japan acknowledges that the alliance with the U.S. remains the cornerstone of its security policy and that it needs to work hand in hand with the U.S. to respond to potential threats posed not only to Japan but also to the broader region. Since 2010 the bilateral Extended Deterrence Dialogue has become an important mechanism not only for reconfirming the U.S. commitment to Japan but also for providing a strong message to China. While extended nuclear deterrence raises domestic issues within Japan that will need to be managed, it is crucial for Japan to utilize existing means, both political and military, to deter China from taking any military actions.

POLICY IMPLICATIONS

- Since the rapid buildup of Chinese military capabilities could change the structure and dynamic of the current deterrent mechanism in East Asia, it has become increasingly important that Japan, together with its allies and like-minded states, work to stabilize the security situation and environment in the region.
- Japan must neither underestimate nor overestimate China's purpose for its military buildup.
- Japan will need to use its diplomatic channels to work toward maintaining stability in the region, while at the same time working to reinforce its self-defense abilities in order to maintain its deterrent capabilities against China.
- The alliance with the U.S. will continue to be the cornerstone of Japan's security policy and will remain so for the foreseeable future.

Security concerns related to China have been rapidly increasing in Japan and have become an even more pressing reality due to Russia's invasion of Ukraine. As Prime Minister Fumio Kishida has mentioned in multiple speeches, there is "a strong sense of crisis that Ukraine may be East Asia tomorrow."¹ This caution is based on the notion that "unilateral attempts to change the status quo by force are not acceptable."² Given the rising tension in East Asia, as well as the rapid growth of Chinese military capabilities, the region could face a real crisis in the near future. These concerns have had a huge impact on Japan's security policies, resulting in strategic changes, potential amendment of domestic laws, and shifting mindsets within the general public.

This essay begins by assessing the direct and indirect threats that China's modernization of its nuclear capabilities poses for Japan. It then examines how Japan is responding to these threats and considers the opportunities for further cooperation with the United States.

China's Nuclear Capabilities

Direct Threats

The rapid buildup of Chinese military capabilities, especially regarding nuclear weapons, is particularly alarming to Japan. It could change the structure and dynamic of the current deterrent mechanism in East Asia and lead to direct military threats, including the possible use of nuclear weapons against Japanese territory.

China has been increasing its nuclear forces in terms of both quality and quantity. It is estimated that the country could possess approximately 700 warheads by 2027 and 1,500 by 2030 if it continues to expand its stockpile at the current pace.³ With competition between China and the United States becoming even more severe in recent years, the People's Liberation Army is said to be aiming to increase the number of nuclear warheads to 900, which is three times the size of its current stockpile.⁴ China has also been continuously modernizing its means of delivery. The development of nuclear-powered ballistic missile submarines (SSBNs) that are capable of being equipped with JL-2 submarine-launched ballistic missiles (SLBMs) enhances Chinese nuclear deterrent capabilities. It is also reported that an upgraded SSBN is being developed, which will be able to deploy JL-3 SLBMs that have a longer range than the JL-2.⁵

An even more alarming development for Japan regarding China's military capabilities, however, is the country's possession of intermediate-range ballistic missiles (IRBMs), medium-range ballistic missiles (MRBMs), and short-range ballistic missiles (SRBMs). Regarding IRBMs and MRBMs (D-21, D-26, D-17), since China was not included in the Intermediate-Range Nuclear Force Treaty, it is currently estimated that the country possesses a significant inventory of ground-launched ballistic missiles and cruise missiles that would have fallen under the treaty's restrictions. This means that China has some advantage over the United States in terms of the

¹ "Press Conference by Prime Minister Kishida Regarding His Visit to France, Italy, the United Kingdom, Canada, and the United States of America," Prime Minister's Office (Japan), January 14, 2023, https://japan.kantei.go.jp/101_kishida/statement/202301/_00010.html.

² Josh Rogin, "Japan's Prime Minister Warns of a Historic—and Dangerous—Moment in Asia," *Washington Post*, January 11, 2023, <https://www.washingtonpost.com/opinions/2023/01/11/japan-prime-minister-rearmament-china-north-korea>.

³ U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022* (Washington, D.C., 2022).

⁴ "Chugoku, kakudantou sanbaizou no houkou Bei taikou, 35-nen made ni 900 hatsu" [China to Expand More Than Three Times the Number of Its Nuclear Warheads, in Rivalry with the United States, 900 by 2035], *Nishinippon Shimbun*, February 12, 2023, <https://www.nishinippon.co.jp/item/o/1052864>.

⁵ U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*, 96.

number of weapons it possesses. Both D-26s and D-21s are anti-ship ballistic missiles that are capable of carrying conventional and nuclear warheads, with the former having Guam in its target range. Furthermore, the D-17 is said to be able to carry hypersonic glide vehicles, which may be impervious to Japan's missile defense systems.⁶

The SRBMs, on the other hand, are said to be initially directed at Taiwan, but these missiles are simultaneously estimated to have the Nansei Islands, including the Senkaku Islands, in their range.⁷ The use of SRBMs could directly jeopardize Japanese territory in the event of a military operation around the East China Sea, even if that operation were not directed at Japan.⁸ Neither an intentional attack nor an accidental military operation that involves Japanese territory can be discounted as a possibility.

Indirect Threats

In addition to IRBMs and SRBMs, China is also rapidly modernizing its intercontinental ballistic missiles (ICBMs). This is a threat to the current superiority that the United States enjoys in the region, which could ultimately have an impact on Japan's security policy. Moreover, the modernization and increase of the number of China's bombers (H-6) could also pose a threat to Japan, given that they are likely able to carry long-range land-attack cruise missiles with nuclear capabilities. With China said to be reinforcing its "nuclear triad," the power balance in the region might shift, leading to an even more deteriorating security situation for Japan.⁹

China's rapid growth in expanding its military capabilities in the space, cyber, and electromagnetic domains is also worrisome. China has not ruled out the use of outer space for military purposes and has increased the number of satellites that might be utilized for military purposes. Japan considers China's ability to deploy new and emerging technologies as game-changing to the existing power balance, not only in the East Asian region but also throughout the world. The development and possession of these technologies strengthen China's comprehensive military capabilities and could support its nuclear deterrent capability by reinforcing its conventional forces.

Moreover, China's ability to spread disinformation could invite serious confusion within Japanese society, potentially weakening the general public's support for the government. If the government were to lose the confidence of the public, it would be extremely difficult for Japanese leaders to pursue proactive policies toward China, leaving the country even more vulnerable toward potential military threats.

Rapid advancement in technology across multiple domains increases the risk of weapon deployment, which could escalate to the use of nuclear weapons. As the only country that has suffered from the direct effects of atomic bombs, Japan has a strong desire to see the continuation

⁶ Ankit Panda, "Introducing the DF-17: China's Newly Tested Ballistic Missile Armed with Hypersonic Glide Vehicle," *Diplomat*, December 28, 2017, <https://thediplomat.com/2017/12/introducing-the-df-17-chinas-newly-tested-ballistic-missile-armed-with-a-hypersonic-glide-vehicle>.

⁷ Ministry of Defense (Japan), *Defense of Japan 2023* (Tokyo, 2023), 61, https://www.mod.go.jp/en/publ/w_paper/wp2023/DOJ2023_EN_Full.pdf.

⁸ For example, on August 4, 2022, China launched eleven ballistic missiles, five of which fell inside Japan's exclusive economic zone. "Chugoku no dandou missairu, go-hatsu ga Nihon no EEZ-nai rakka, Kishi Boueishou" [Five Chinese Ballistic Missiles Landed in Japan's EEZ, Says Defense Minister Kishi], *Nikkei*, August 4, 2022, <https://www.nikkei.com/article/DGXZQOUA04BQ40U2A800C2000000>.

⁹ For further details, see Liu Xuanzun, "U.S. Hypes China's JL-3 Submarine-Launched Ballistic Missile Development 'with Ulterior Motives,'" *Global Times*, November 20, 2022, <https://www.globaltimes.cn/page/202211/1279959.shtml>; and Parth Satam, "Chinese H-6 Bombers 'Practice' Sinking U.S. Aircraft Carriers While Russia, China Begin Massive War Drills Near Japan: Analysis," *Eurasian Times*, December 21, 2022, <https://eurasianimes.com/east-asian-tinderbox-russia-china-warships-begin-exercise>.

of the nonuse of nuclear weapons and is alarmed by the prospect of nuclear weapons being used in any circumstances.¹⁰

Scenarios Involving the Potential Use of Nuclear Weapons

China stands by its no-first-use policy and claims to provide unconditional negative security assurance to non-nuclear weapons states. From an optimistic perspective, then, a direct use of nuclear weapons against Japan by China can be considered an unrealistic option. On the other hand, how China defines a “non-nuclear weapons state” is unclear. Because Japan is under the nuclear umbrella of the United States, it may not be considered by Beijing as a pure non-nuclear weapons state. Moreover, the existence of U.S. military bases on Japanese soil creates potential targets for a Chinese military attack.

A more realistic scenario would be China using a minimum scale (in both number and size) of nuclear weapons as a symbolic action in a crisis scenario. This would be under the concept of an escalate to de-escalate strategy and would only be valid if nuclear parity between the United States and China were to become a reality. If so, it would be unlikely that a direct military conflict between the United States and China would occur. Yet, with escalating tensions over Taiwan, there is a possibility that a military exchange in the region might actually occur. The likelihood of China using nuclear weapons on a large scale would still be low, but limited use of nuclear weapons could nonetheless occur as a conflict escalates. The chances of China using nuclear weapons would increase if the United States were to decide to intervene on the issue of Taiwan. While China might not use nuclear weapons directly against Japan, the U.S. military bases located in Japan could become targets for conventional attacks, which in turn could lead to the potential use of nuclear weapons.

Japan’s Response

In Japan’s previous National Defense Program Guidelines, while North Korea was considered as a “threat,” China was recognized as a deep and serious security “concern.”¹¹ This view, however, has shifted. Japan has labeled China as an important factor in the decision to revise its security policies, which resulted in the renewal of Japan’s National Security Strategy, National Defense Strategy, and Defense Buildup Program in 2022. The renewal of the three documents reflected suggestions made by the Liberal Democratic Party that these documents should be drawn up by focusing on “a counter-threat type defense strategy” to address the “serious threat” that China poses to Japan’s security.¹² Identifying China as a potential “threat” has been repeatedly raised and discussed in multiple sessions and statements in the Japanese Diet.

One of the traditional ways in which Japan has dealt with potential threats, especially those involving missile attacks (not limited to those launched by China), has been to maintain a

¹⁰ Ministry of Foreign Affairs (Japan), “G7 Leader’s Hiroshima Vision on Nuclear Disarmament,” May 19, 2023, <https://www.mofa.go.jp/mofaj/files/100506499.pdf>.

¹¹ Ministry of Defense (Japan), “National Defense Program Guidelines for FY 2019 and Beyond,” December 19, 2018, https://www.cas.go.jp/jp/siryoku/pdf/2019boueikeikaku_e.pdf.

¹² Liberal Democratic Party of Japan, “Aratana kokka anzen hoshou senryaku-tou no sakutei ni muketa teigen yori shinkokuka suru kokusaijouseika ni okeru waga kuni oyobi kokusaishakai no heiwa to anzen wo kakuho suru tame no boueiryouku no bapponteki kyooka no jitsugen ni mukete” [Recommendations for Formulating a New National Security Strategy; towards the Realization of a Drastic Strengthening of Defense Capabilities to Ensure the Peace and Security of Japan and the International Community in an Increasingly Serious International Situation], April 26, 2022, 2, https://storage2.jimin.jp/pdf/news/policy/203401_1.pdf.

self-defense capability that would be effective enough to deter those attacks. Japan has been committed to an exclusive defense-oriented policy, which is based on the Basic Policy on National Defense (1957) establishing the need for Japan to build up “rational defense capabilities by steps within the limit necessary for self-defense in accordance with national strength and situation.”¹³

Over the years, Japan has acquired new capabilities to reinforce this policy. In 2003, it made the decision to introduce ballistic missile defense systems, and at present these systems are becoming far more comprehensive. The Integrated Air and Missile Defense system has become a realistic option for Japan, with research and simulations initiated by the Ministry of Defense. Although the introduction of Aegis Ashore was approved in 2017 as part of this process,¹⁴ this decision was reversed in 2020, which led to a discussion of whether Japan should possess an “enemy base strike capability” within the range of its self-defense policy. Such discussions have been held within the Liberal Democratic Party since the late 1990s, but they have become more spirited since the collapse of the Aegis Ashore plan. Developing a strike capability was considered a valuable option for Japan to close a blind spot in its defense capabilities, especially regarding the interception of missiles and other means of delivery, in light of the deteriorating security environment surrounding the country. In other words, “to protect Japan’s peace and sovereignty in an increasingly severe security environment,” Japan needs to reinforce its Self-Defense Forces while at the same time improving its ability to coordinate with allies and partners. This means that Japan is “not content with its current deterrence and response capabilities” and, therefore, is still in the process of working to acquire them.¹⁵

This assessment resulted in several important changes to Japan’s security policies and laws. Shifts and updates related to the policies mentioned above reflect the country’s growing security concerns and demonstrate a political commitment to strengthening its ability to address them. According to the National Security Strategy, for example, Japan should respond to challenges posed by China with its “comprehensive national power and in cooperation with its allies, like-minded countries and others.” This is based on the notion that there are issues that Japan cannot accept, especially China’s visions and claims on the international order, as well as the way in which China may attempt to change the status quo unilaterally by force.¹⁶ The relevant policy shifts allow Japan to possess a “counterattack capability” to deter potential attacks on the country. This concept is the same as the “enemy base strike capability,” but the phrasing is nuanced in Japanese so that the general public does not strongly oppose the concept. This policy shift allows Japan to use certain forces even before a missile is actually launched by an adversary (namely North Korea or China), if there is evidence of an attack.

Other security measures include, for example, reinforcing troops based on Japan’s far-flung southwestern islands, in both number and quality, by renewing units and providing additional military equipment.¹⁷ Japan is aiming to double its defense budget by 2027 in order to strengthen its deterrence capabilities together with its defense capabilities in the case of an actual contingency.

¹³ Ministry of Defense (Japan), “Overview and Fundamental Concepts of National Defense,” https://www.mod.go.jp/en/d_act/d_policy/index.html.

¹⁴ Ministry of Defense (Japan), “Ijisu Ashoa ni kakaru keii ni tsuite” [About the Background Related to Aegis Ashore], September 4, 2020, https://www.mod.go.jp/j/approach/defense/bmd/pdf/20200904_a.pdf.

¹⁵ Ministry of Defense (Japan), *Defense of Japan 2022* (Tokyo, 2022), 19, https://www.mod.go.jp/en/publ/w_paper/wp2022/DOJ2022_Digest_EN.pdf.

¹⁶ Fumio Kishida, “Prime Minister Kishida’s Speech at the Johns Hopkins University School of Advanced International Studies (SAIS),” Ministry of Foreign Affairs (Japan), https://www.mofa.go.jp/na/1/us/page4e_001321.html.

¹⁷ Ministry of Defense (Japan), “Boueiryoku kyouka kasoku pakkeji ‘16-kagetsu yosan’ toshite hensei, Reiwa 4-nen do yosan no gaiyou” [Defense Strengthening Acceleration Package: Organized as a 16-Month Budget—Overview of FY2020 Budget], December 2021, https://www.mod.go.jp/j/yosan/yosan_gaiyo/2022/yosan_20211224-1.pdf.

This has led to urgent debates on and possible shifts regarding the interpretation of Article 84 of the Self-Defense Force Law (1954). Article 84 originally justified the use of necessary measures in order to have manned foreign aircraft land or leave Japanese airspace in case of an intrusion. The change in interpretation would allow the use of weapons against unmanned aircraft that violate Japanese airspace, which was a result of recent incidents involving “unmanned reconnaissance balloons flown by China.”¹⁸

Opportunities for Cooperation with the United States to Counter China’s Nuclear Threats

It is obvious that Japan alone can neither deter nor respond commensurately to threats or use of nuclear weapons by China. Therefore, the alliance with the United States remains the cornerstone of Japan’s security policy and will remain so for the foreseeable future. During the U.S.-Japan Security Consultative Committee (2+2) meeting held in Tokyo in March 2023, both countries acknowledged that China is becoming an even more serious concern.¹⁹

At the same time, Japan acknowledges that it needs to step up its role and reinforce its own defense capabilities to ease the burden placed on the United States. In the relationship between the United States and Japan, the former is often described as being the spear (strike) and the latter the shield (defense). This is based on the notion that Japan has traditionally held on to the idea of “deterrence by denial” and depends on the United States for “deterrence by punishment.” It has been repeatedly mentioned that while the United States will employ “forward-deployed forces, including those stationed in Japan, and introduce reinforcements from elsewhere,” Japan will “establish and maintain the basis for its support of U.S. deployments.”²⁰ Both countries have understood the importance of U.S. extended deterrence remaining credible and resilient and that this would be bolstered by Japan possessing further military capabilities.²¹

A reliable and accurate domestic missile defense system should, therefore, be continuously sought and operated, together with strong conventional counterforce abilities. Hence, Japan’s new policy and strategy documents “reshape the ability” of the alliance in order “to promote peace and protect the rules-based order in the Indo-Pacific region and around the world.”²² The shift in Japan’s defense policy is seen as Japan growing out of its traditional role as the shield to acquire the power to act as the spear in certain circumstances. However, these actions could increase the possibility for a preemptive strike from China with Japan as a primary target in an emergency scenario.

One way to mitigate this concern would be for the United States to reiterate its commitment to the region and to the security of Japan by emphasizing the reliability of its extended nuclear deterrence. Both the United States and Japan agreed to work together to renew their commitment

¹⁸ “Japan to Give OK to Shooting Down Foreign Balloons,” *Japan News*, February 16, 2023, <https://japannews.yomiuri.co.jp/politics/defense-security/20230216-91444>.

¹⁹ “Joint Statement of the Security Consultative Committee (2+2),” Ministry of Foreign Affairs (Japan), January 11, 2023, <https://www.mofa.go.jp/mofaj/files/100444894.pdf>.

²⁰ Ministry of Foreign Affairs (Japan), “The Guidelines for Japan-U.S. Defense Cooperation,” April 27, 2015, <https://www.mofa.go.jp/files/000078188.pdf>.

²¹ “Joint Statement of the Security Consultative Committee.”

²² Antony J. Blinken, “Press Statement: Welcoming Japan’s New National Security Strategy, National Defense Strategy, and Defense Buildup Program,” U.S. Department of State, December 16, 2022, <https://www.state.gov/welcoming-japans-new-national-security-strategy-national-defense-strategy-and-defense-buildup-program>.

to strengthening the deterrence and response capabilities of the alliance during the summit meeting held in May 2022. The two countries also reiterated the significance of enhancing bilateral discussions on extended deterrence, including through the Security Consultative Committee and the bilateral Extended Deterrence Dialogue (EDD).

The EDD has been an ongoing framework since 2010. The establishment of the dialogue was a result of strong anxieties on the Japanese side regarding the United States' commitment to Japan (and East Asia more broadly). The idea came about due to the reaction by the Japanese government to President Barack Obama's controversial Prague speech in 2009, which mentioned the United States' "commitment to seek the peace and security of a world without nuclear weapons."²³ Reaching a swift agreement to establish a regular forum to discuss the "nuclear umbrella" following the speech was a notable development from the high-level talks held by the two governments in July 2009.²⁴ Since then, the EDD has become an important mechanism not only for reconfirming the United States' commitment to Japan but also for providing a strong message to China.²⁵ The dialogue held in 2022 recognized the importance of cooperation between the United States and Japan for reinforcing deterrence amid the rapid growth in China's military capabilities.²⁶

The credibility of U.S. nuclear deterrence has always been a top concern for Japan. President Obama's Prague speech was a clear sign of the U.S. commitment to pursuing a world free of nuclear weapons, which has long been Japan's ultimate goal. On the other hand, this was also taken by Japanese politicians and bureaucrats as a sign that the United States' commitment to Japan's nuclear deterrence and security would eventually decrease.²⁷ In February 2010, high-level officials from both the Ministry of Foreign Affairs and the Ministry of Defense of Japan visited Washington, D.C., to discuss the nuclear umbrella and extended deterrence with U.S. officials in advance of the upcoming submission of the Nuclear Posture Review to Congress that March.²⁸

More recently, extended deterrence was discussed as part of an independent agenda at the ministerial level for the first time in the 2+2 meeting held in January 2023.²⁹ Moreover, a new bilateral forum for dialogue on extended nuclear deterrence has also been sought by the Republic of Korea (ROK) and the United States. At a U.S.-ROK meeting held in April 2023, both countries agreed to launch a nuclear consultative group in order to strengthen extended deterrence and to engage in extensive discussions on nuclear and strategic planning. A new interagency tabletop simulation to strengthen a joint approach to planning for nuclear contingencies has also been established.³⁰

²³ "Remarks by President Barack Obama in Prague as Delivered," White House, April 5, 2009, <https://obamawhitehouse.archives.gov/the-press-office/remarks-president-barack-obama-prague-delivered>.

²⁴ "Kaku no kasa' teiki kyougi kentou Nichibei, doumei kyouka mo kakunin" [Considering Regular Discussions on the "Nuclear Umbrella," Japan and the United States Confirm Strengthening of Alliance], *Nikkei*, July 18, 2009.

²⁵ "Nichibei, kakuyokushi e shinrai kakuho 'kaku no kasa' de bouei kakunin Roshia ikaku nentou" [Japan and the United States Confirm Defense under "Nuclear Umbrella," Securing Trust in Nuclear Deterrence, with Russian Threat in Mind], *Nikkei*, May 6, 2022.

²⁶ "Nichibei toukyoku, kakuyokushi kyougi e Chugoku no gunjiryoku kakudai nentou ni" [Japan and U.S. Authorities to Discuss Nuclear Deterrence, with China's Military Expansion in Mind], *Nikkei*, June 22, 2022.

²⁷ "Nihon, 'kaku no kasa' shukushou kenen Ji-Kou seiken-ji, Bei ni dentatsu Shurenja moto choukan ga shougen" [Japan Concerns over Reduction of the "Nuclear Umbrella" Were Conveyed to the United States during the LDP-Komeito Administration, Former Secretary Schlesinger Testifies], *Asahi Shimbun*, November 6, 2009.

²⁸ "Kakuyokushi kakunin e houbei Gaimu, Bouei-shou kanbu" [Foreign and Defense Ministry Officials Visit the United States to Confirm Nuclear Deterrence], *Asahi Shimbun*, February 19, 2010.

²⁹ "Joint Statement of the Security Consultative Committee ('2+2')," Ministry of Foreign Affairs (Japan), January 12, 2023, <https://www.mofa.go.jp/files/100444894.pdf>; "Japan-U.S. Security Consultative Committee (Japan-U.S. '2+2')," Ministry of Foreign Affairs (Japan), January 11, 2023, https://www.mofa.go.jp/na/st/page4e_001338.html; and "Kokuyokushi kyougi, Nichi-Bei mo kasoku" [Nuclear Deterrence Talks between Japan and the United States Accelerate], *Yomiuri Shimbun*, April 28, 2021.

³⁰ "Washington Declaration," White House, April 26, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/26/washington-declaration-2>.

This has been seen as an important step forward in maintaining peace and security in the region. The timing could have not been better, since relations between the ROK and Japan have recently shifted in a more positive direction.³¹ President Yoon Suk Yeol regards the U.S.-Japan-ROK trilateral relationship as an important foundation for peace and security in Northeast Asia, and thus reinforcing nuclear deterrence by promoting cooperation among the three countries is a priority.³² As dialogue between the ROK and the United States progresses, there will be more opportunities for the three countries to work together to strengthen the U.S. alliance mechanism by utilizing the EDD.

Challenges and dilemmas, however, might arise from this development. As the ROK sees the creation of nuclear deterrents as a practical means to not only deter but also counter threats, the country is likely to be interested in further involvement in talks regarding the actual use of nuclear weapons in an emergency scenario. This is due to the fact that the ROK's primary concern is the direct threat from North Korea, and in an emergency the use of nuclear weapons could be considered as a pragmatic option to counter an attack. Japan also perceives North Korea as a security threat, but at the same time considers China to be a potential threat, which is presumably different from the threat perception of the ROK. This difference could lead to a gap in enthusiasm for certain security policies, commitment to the alliance, and cooperation, which may ultimately result in a rather weak alignment of the three countries.

Moreover, in Japan, there is apprehension about whether the United States might actually consider the use of nuclear weapons, even on a limited scale. Therefore, although Japan has been even more involved in exchanges and information sharing on extended deterrence with the United States, it has been discreet about the fact that if the United States were to actually consider the use of nuclear weapons, it would not want to take part in any of the deliberations, since doing so would create a huge dilemma for Japan's nuclear policy.³³ This dilemma comes from the fact that Japan has had a long history of promoting the total elimination of nuclear weapons while simultaneously enjoying the extended nuclear deterrence provided by the United States. Given that Japan is the only country that has suffered from the devastation of a nuclear weapons attack, but at the same time relies on the extended nuclear deterrence provided by the United States for security reasons, the only path left for Japan would be to "seek its ideal, while making realistic decisions."³⁴ This means that even as it confronts the realities of its current security situation, Japan would continue to search for a way to promote nuclear disarmament and nonproliferation and to achieve its ultimate goal—the total elimination of nuclear weapons.

Japan is determined to carry on with this difficult balancing act. The use of nuclear weapons by any country, including the United States, would be a threshold that Japan presumably would not want to accept. This position, however, contradicts the fact that nuclear deterrence should be effective and reliable, inasmuch as the credibility of nuclear deterrence is based on the assumption that nuclear weapons would be used in a contingency scenario.

³¹ According to a poll initiated by the *Yomiuri Shimbun* and the *Korean Times*, views of Japan-ROK relations scored 45% positive in Japan and 43% positive in the ROK. These numbers were the highest since 2011 in Japan and since 1995 in the ROK. "Nikkan kankei 'yoi' kyujoushou, honsha-Kankoku Nippou, Kyoudou yoron chousa" [Japan-Korea Relations "Good," Improving Rapidly, According to Opinion Poll by Hankook Ilbo Headquarters and Kyodo], *Yomiuri Shimbun*, June 15, 2023.

³² "Shunou kaigi Nikkan kaizen kasoku wo kakunin shatoru gaikou 12-nen buri" [Summit Meeting between Japan and South Korea Confirms Accelerated Improvement, First Shuttle Diplomacy in 12 Years], *Yomiuri Shimbun*, May 8, 2023.

³³ "Kakuyokushi Kyougitai: Nichibeikan no ondosa chousei kadai (kaisetsu)" [Nuclear Deterrence Consultative Body: Navigating Differences in Attitude between Japan, the United States, and South Korea (Commentary)], *Yomiuri Shimbun*, March 8, 2023.

³⁴ "Dai-132-kai Kokkai Sangiin Gaikou Iinkai kaigiroku dai 11-gou" [Minute of Foreign Affairs Committee, the 132th Diet, House of Councilors, No. 11], Ministry of Finance Printing Bureau (Japan), April 27, 1995, 5.

Conclusion

The biggest change in Japan's security environment in recent years is not only China's expanding military capabilities but also that the country has become a global power with a strong impact on international relations and the international order. In dealing with this reality, Japan faces a dilemma between its desire to reinforce the nuclear deterrence provided by the United States and its desire to seek the total elimination of nuclear weapons. Balancing these two policy goals is not an easy task and could jeopardize relations with the United States.

Nonetheless, the view that nuclear weapons must not be used and that a nuclear war must not take place is shared by the majority of countries. In order to achieve this common goal, international norms should be acknowledged, and international laws should be appreciated. Confidence, especially among regional countries, should be developed and strengthened. Working together with like-minded states, and coordinating with the United States in doing so, would send a strong message to China and to the international community more broadly. It is therefore a high priority for Japan to try and create an environment that can support these goals, as well as to mitigate tensions within the region, not by provoking and isolating China but by establishing and reinforcing relations with partners and allies and strengthening its own capacity for self-defense. Japan should work to ensure that it would not be in China's best interest to take military action, including the use of nuclear weapons, against any country.

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Will the Pathogen Spread South? The Implications of a Chinese Biological Weapons Program for Vietnam

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EXECUTIVE SUMMARY

This essay examines the possibility and consequences of a Chinese use of biological weapons against Vietnam.

MAIN ARGUMENT

Despite the growing ease of delivering a biological attack, Vietnam currently lacks a national biodefense strategy. This biodefense weakness leaves the country vulnerable. In the context of China's growing assertiveness in the South China Sea and Vietnam's serious effort to expand defense relations with members of the Quad, Vietnam could draw China's ire due to its cooperation with China's principal enemy, the U.S. In a conflict scenario, China might attempt to use WMDs, not as a substitute for but as a force multiplier of its conventional forces to exert military pressure on Vietnam under a "bleeding Vietnam" strategy. Such a strategy would be an effort to compel Vietnam to stick to neutrality, as China undertook in 1979 and during the 1980s when Vietnam allied with China's then principal enemy, the Soviet Union. Although China claims to not possess any biological weapons, Vietnam needs to be cognizant of such a threat due to the disruptive and destructive impact such an attack could have on its military and public health.

POLICY IMPLICATIONS

- Vietnam needs to develop a national biodefense strategy to better prepare for the next pandemic, whether it is artificial or natural.
- Vietnam and the U.S. should consider expanding existing cooperation on WMD nonproliferation in general and explore more areas of cooperation that are security-insensitive but public health-urgent in particular.
- The U.S. should be open to working with Vietnam's traditional security partners, including Russia, to help Vietnam bolster its biodefense capability.
- The U.S. should be aware of Vietnam's foreign policy of diversification and multilateralization, most importantly its balancing act between the U.S. and China. This means recognizing that its efforts to help Vietnam develop a national biodefense strategy could arouse Chinese suspicion of Vietnam's intentions and invite unnecessary punishment. The U.S. thus might need to be patient if Vietnam rejects any U.S. initiatives because it wants to gauge reactions from China.

China is and will remain Vietnam's most significant military threat over the next decade.¹ Beijing's goal has long been to keep Indochina free from Vietnamese domination or an extraregional great power's intervention.² As Vietnam increasingly internationalizes the South China Sea disputes and seeks more support from the United States, it could draw China's ire and invite Chinese coercion to raise the costs of U.S.-Vietnam cooperation.³

When Vietnam allied with the Soviet Union in 1978, Beijing launched a short war against the country to teach it a lesson and weaken Hanoi's trust in the Soviet security guarantee.⁴ While the conventional military balance is in China's favor, Vietnam has many times shown that it is not a pushover.⁵ Vietnam's successful resistance during the 1979 Sino-Vietnam War and the subsequent decade of hostility and border skirmishes demonstrated that Hanoi could withstand China's "bleeding Vietnam white" strategy while expanding cooperation with the Soviet Union.⁶ Vietnam only acquiesced to China in the late 1980s, when the Soviet Union was close to its demise.⁷ If the Soviet Union had been able to continue sending Vietnam massive military and economic aid, Hanoi would not have had to give in to Beijing's demands and normalize diplomatic relations on Chinese terms.⁸

The key question now concerns how China will attempt to coerce Vietnam in the contemporary era. Will China's future coercion be different from its past attempts? In contrast to its lack of options in the 1980s, Vietnam's resistance of China's coercion will persist as long as it receives substantial backing from an established extraregional great power, which will likely be the United States as the U.S.-China rivalry deepens. In such a scenario, conventional coercion might not be enough to soften Vietnamese resistance and weaken U.S.-Vietnam cooperation. China might need to rely on weapons of mass destruction, not as a substitute for but as a force multiplier of its conventional forces. Biological weapons represent the most credible and effective means of coercion due to their costly and disruptive impacts on the target, degree of indistinguishability from a natural outbreak, and low production costs.

As of writing, China's WMD arsenal officially consists of only nuclear weapons.⁹ The country joined the Biological Weapons Convention in 1984 and the Chemical Weapons Convention in 1997, officially renouncing the military use of those weapons. However, the United States remains skeptical of Chinese claims that it does not have offensive biological weapon or chemical

¹ This essay does not suggest that there will be a China-Vietnam conflict in the future. It only argues that China's threat is the main concern of Vietnam. See Khang Vu, "The China Factor in Vietnam's Multidirectional Foreign Policy," *Diplomat*, April 19, 2023, <https://thediplomat.com/2023/04/the-china-factor-in-vietnams-multidirectional-foreign-policy>.

² Robert S. Ross, "China-Vietnamese Relations in the Era of Rising China: Power, Resistance, and Maritime Conflict," *Journal of Contemporary China* 30, no. 130 (2021): 613–29.

³ Peter Van Ness, *Revolution and Chinese Foreign Policy: Peking's Support for Wars of National Liberation* (Berkeley: University of California Press, 1970); and Robert S. Ross, *The Indochina Tangle: China's Vietnam Policy, 1975–1979* (New York: Columbia University Press, 1988), 8.

⁴ Xiaoming Zhang, *Deng Xiaoping's Long War: The Military Conflict between China and Vietnam, 1979–1991* (Chapel Hill: University of North Carolina Press, 2015).

⁵ Shang-su Wu, "Vietnam: A Case of Military Obsolescence in Developing Countries," *Pacific Review* 32, no. 1 (2019): 113–30.

⁶ Allen S. Whiting, "China's Use of Force, 1950–96, and Taiwan," *International Security* 26, no. 2 (2001): 119–20.

⁷ Sergey Radchenko, *Unwanted Visionaries: The Soviet Failure in Asia at the End of the Cold War* (Oxford: Oxford University Press, 2014), 124–58.

⁸ Robert S. Ross, "China and the Cambodian Peace Process: The Value of Coercive Diplomacy," *Asian Survey* 31, no. 12 (1991): 1170–85.

⁹ This essay does not consider that radiological weapons are WMDs, as they lack warfighting value. Radiological weapons are instead weapons of mass disruption. They do not release enough radiation to kill people and can be detected and contained by standard military equipment. Hence, radiological weapons cannot significantly raise the costs of Vietnamese resistance.

weapon programs.¹⁰ This is due to the dual-use nature of China's biological and chemical research, which, under the country's military-civil fusion strategy, encourages the exploitation of private companies' research for military use.¹¹ This essay thus assumes that China does possess clandestine biological and chemical weapon programs and now considers their coercive utility alongside that of its nuclear weapons. China's goal would be to compel Vietnam to not cooperate with an extraregional great power by significantly raising the costs of resistance under a strategy to bleed Vietnam white.¹² China's use of conventional weapons as a means of coercion might not be enough if Vietnam receives substantial U.S. backing. This essay will walk through the logic of coercion across different WMDs and explain why biological weapons represent the most credible threat.

The Logic of Biological Weapons as a Coercive Measure

Contrary to their great destructive power, nuclear weapons have a poor record of coercion.¹³ In the case of Vietnam, this is because their use would not add to China's warfighting power, especially when Vietnam has no intention of invading China. Importantly, when Vietnam and China clashed in 1979, China's nuclear weapons were not a major factor influencing the outcome of the war or Vietnam's subsequent resistance.¹⁴ Moreover, the nature of the bleeding-Vietnam-white strategy calls not for the massive destruction of the country's defense capabilities but for the manipulation of its net-benefit calculations of cooperating with an extraregional great power by maintaining a state of China-Vietnam hostility.¹⁵ Importantly, China's use of nuclear coercion would further invite international condemnation for the breach of the no-first-use policy. Chemical weapons can also wreak havoc on Vietnam, but the level of destruction is limited to designated targets because such weapons do not rely on pathogens that can mutate and spread to the broader population. Remarkably, a chemical attack can be detected, which would invite global scrutiny of China's adherence to the Chemical Weapons Convention. What China wants is a WMD that can raise substantial costs for the target but still allow it some degree of deniability.

Biological weapons satisfy many requirements for raising costs without publicity. Biological warfare "involves the use of disease-producing microorganisms—bacteria, viruses, fungi, and rickettsiae—in support of military or paramilitary operations."¹⁶ Unlike nuclear and chemical weapons, biological weapons have both maximum destructiveness and availability.¹⁷ First, the attack is costly and disruptive. The target must detect the new virus, contain the spread,

¹⁰ U.S. Department of State, *Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments* (Washington, D.C., April 2021), 46, <https://www.state.gov/wp-content/uploads/2021/04/2021-Adherence-to-and-Compliance-With-Arms-Control-Nonproliferation-and-Disarmament-Agreements-and-Commitments.pdf>; and U.S. Department of State, *Compliance with the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction* (Washington, D.C., April 2021), 10–11, <https://www.state.gov/wp-content/uploads/2021/04/2021-Condition-10-c-Report.pdf>.

¹¹ Kelley M. Saylor, "Emerging Military Technologies: Background and Issues for Congress," Congressional Research Service, CRS Report for Congress, R46458, November 1, 2022, 23.

¹² Robert J. Art, "To What Ends Military Power?" *International Security* 4, no. 4 (1980): 8–10.

¹³ Todd S. Sechser and Matthew Fuhrmann, "Crisis Bargaining and Nuclear Blackmail," *International Organization* 67, no. 1 (2013): 173–95.

¹⁴ King C. Chen, "China's War Against Vietnam, 1979: A Military Analysis," *Journal of East Asian Affairs* 3, no. 1 (1983): 233–63.

¹⁵ Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), 2–6.

¹⁶ S.B. Martin, "The Role of Biological Weapons in International Politics: The Real Military Revolution," *Journal of Strategic Studies* 25, no. 1 (2002): 65–66.

¹⁷ Richard K. Betts, "The New Threat of Mass Destruction," *Foreign Affairs*, January 1, 1998, <https://www.foreignaffairs.com/articles/1998-01-01/new-threat-mass-destruction>.

and vaccinate its troops and the general population. Importantly, the psychological effect of a biological attack on a society is massive, which would further strain a resource-scarce country like Vietnam.¹⁸ Modern gene-editing techniques make biological weapons more deadly at a low cost, which further raises the bar for successful containment of a pathogen in the future.¹⁹

Second, states may find it hard to distinguish a biological attack or a lab leak from a natural outbreak, especially in the aftermath of the Covid-19 pandemic and other Asian bird flus where the pathogens are still mutating.²⁰ China thus could maintain deniability, which would not be possible in the case of a chemical or nuclear attack. Third, biological weapons are cheap to produce, hard to detect, and easy to deliver. The use of drones to spray aerosols is a case in point, as the drones permit remote dissemination of pathogens at low risk to the perpetrator.²¹ The perpetrator will spend less on offense and the target will have to spend more in defense, which, in the context of resource asymmetry between Vietnam and China, does not bode well for Vietnam. In short, the offense-defense balance favors the offense in biological warfare.²²

Although terrorists can gain access to biological weapons, Vietnam generally has a low risk of terrorism. As such, it does not have to seriously worry about bioterrorism. At the same time, China would not grant terrorists access to biological weapons so as to maintain total deniability and control of the weapons. Considering that delivering a biological weapon is not challenging in the age of cheap and small arms such as drones, China would not have to rely on a third party to carry out the attack. Additionally, China does not have to coerce Vietnam directly. It would prefer to compel Vietnam to acquiesce without having to use biological weapons. China's use or threat of use of biological weapons against another country, such as Taiwan, would serve as a demonstration effect because Hanoi would take Chinese threats more seriously. Vietnam may watch how the biological attack unfolds and calculate whether it has the resources to withstand the spread of the pathogens. Crucially, Vietnam will try to figure out under what specific scenarios China would use biological weapons and against what types of targets to come up with appropriate, context-specific responses. This is where the country is still lacking, since it does not have a national biodefense strategy.

Specific Scenarios of a Chinese Biological Attack against Vietnam

The goal of a biological attack by China would be political, and thus it would not use biological weapons to destroy but to compel Vietnam to stop cooperating with an extraregional great power

¹⁸ Jeanne Guillemin, *Biological Weapons: From the Invention of State-Sponsored Programs to Contemporary Bioterrorism* (New York: Columbia University Press, 2006), 28.

¹⁹ Katherine Charlet, "The New Killer Pathogens: Countering the Coming Bioweapons Threat," Carnegie Endowment for International Peace, April 17, 2018, <https://carnegieendowment.org/2018/04/17/new-killer-pathogens-countering-coming-bioweapons-threat-pub-76009>.

²⁰ Kathleen M. Vogel, "Expert Knowledge in Intelligence Assessments: Bird Flu and Bioterrorism," *International Security* 38, no. 3 (2014): 39–71; and Michael R. Gordon and Warren P. Strobel, "Lab Leak Most Likely Origin of Covid-19 Pandemic, Energy Department Now Says," *Wall Street Journal*, February 26, 2023, <https://www.wsj.com/articles/covid-origin-china-lab-leak-807b7b0a>.

²¹ Zachary Kallenborn and Philipp C. Bleek, "Drones of Mass Destruction: Drone Swarms and the Future of Nuclear, Chemical, and Biological Weapons," *War on the Rocks*, February 14, 2019, <https://warontherocks.com/2019/02/drones-of-mass-destruction-drone-swarms-and-the-future-of-nuclear-chemical-and-biological-weapons>.

²² Gregory Koblenz, "Pathogens as Weapons: The International Security Implications of Biological Warfare," *International Security* 28, no. 3 (2003/04): 84–87.

as a part of its “coercive diplomacy.”²³ There are three possible scenarios of Chinese compellence using biological weapons, described below by their growing level of intensity.²⁴

In the first scenario, China targets Vietnamese armed forces under compellence by denial to degrade their capabilities to fight border skirmishes or to gain tactical advantages for its own conventional armed forces. In this scenario, China wants to soften specific Vietnamese military outposts before launching quick captures of important hilltops, which constitute parts of the mountainous topography of the border area.²⁵ Because the geography of the border area favors the Vietnamese defense, China will want to rely on biological weapons to create some advantages for its offense.

Second, at the operational level, also under a strategy of compellence by denial, China can spread the virus among Vietnamese troops and create a logjam by targeting ports, military camps, chokepoints, or command-and-control facilities beyond the border area. Without sufficient supplies or in-time redeployment of troops, the Vietnamese military will fail to prepare for defense against Chinese incursions.

In a third scenario, China targets the general population to inflict a great deal of pain on the home front under compellence by punishment. Spreading the pathogen to a larger population will not only damage Vietnam’s economic productivity but also divert resources away from the front line to control the pandemic.

In all three scenarios, China’s goal is to raise the costs so high that no matter how much assistance Vietnam receives from other states, it cannot maintain long-term resistance due to the cost-exchange ratio greatly favoring China. It costs China much less to produce and deliver a pathogen than for Vietnam to protect itself against a biological attack. China will up the ante based on the stiffness of Vietnam’s resistance and its level of cooperation with an extraregional great power.

Vietnam’s Preparation for Biological Attacks

Despite the growing ease of delivering a biological attack, Vietnam lacks a biodefense strategy.²⁶ The government passed Decree no. 81/2019, “On Preventing and Countering Proliferation of Weapons of Mass Destruction,” in November 2019. This decree lays the groundwork for more seriously countering WMD-proliferation efforts. It assigns the Ministry of Defense as the National Focal Agency on WMD and the Chemical Corps as the Standing Agency of the National Focal Agency (Standing Agency 81). The latter would be the main responder to any biological attacks.²⁷

²³ China’s behavior is essentially a coercive “wedge strategy.” See Timothy W. Crawford, *The Power to Divide: Wedge Strategies in Great Power Competition* (Ithaca: Cornell University Press, 2021), 1–25; Yasuhiro Izumikawa, “To Coerce or Reward? Theorizing Wedge Strategies in Alliance Politics,” *Security Studies* 22, no. 3 (2013): 498–531; and Ross, “China-Vietnamese Relations in the Era of Rising China.”

²⁴ On the theoretical logic of compellence, see Robert J. Art and Kelly M. Greenhill, “Coercion: Analytical Overview,” in *Coercion: The Power to Hurt in International Politics*, ed. Kelly M. Greenhill and Peter Krause (Oxford: Oxford University Press, 2018), 20. On different levels of a biological attack, see Koblenz, “Pathogens as Weapons,” 98–101.

²⁵ Chen, “China’s War Against Vietnam, 1979.”

²⁶ Phuong Pham, “Why Vietnam Needs to Adopt a Biological Defense Strategy,” *Diplomat*, June 7, 2021, <https://thediplomat.com/2021/06/why-vietnam-needs-to-adopt-a-biological-defense-strategy>.

²⁷ “Quy dinh ve to chuc, hoat dong cua Co quan dau moi quoc gia Viet Nam ve phong, chong pho bien vu khi huy diet hang loat” [Regulations Regarding Organization and Practice of the National Focal Agency on Preventing and Countering Weapons of Mass Destruction], Ministry of National Defense (Vietnam), March 21, 2020, <https://mod.gov.vn/vn/chi-tiet/sa-ttsk/sa-tt-cmsk/sa-tt-cmsk-17/sa-tt-cmsk-17-gt/93a4cd93-886a-4efa-96b8-5bcfb21a5a1a>; and “Nang cao nang luc phong, chong pho bien vu khi huy diet hang loat” [Strengthening the Ability to Prevent and Counter Weapons of Mass Destruction], *Journal of the Commission for Information and Education*, February 23, 2022, <https://tuyengiao.vn/nang-cao-nang-luc-phong-chong-pho-bien-vu-khi-huy-diet-hang-loat-142513>.

The Covid-19 pandemic was a great opportunity for the Chemical Corps to test its existing methods and evaluate, as well as update, its training manual.²⁸ It participated in pandemic-fighting campaigns by spraying disinfectants in hotspots, rehearsing responses to different outbreak scenarios, and researching and developing homegrown hand sanitizer.²⁹

Before the Covid-19 pandemic, the Chemical Corps cooperated and exchanged knowledge of solutions to chemical, biological, radiological, and nuclear incidents with several regional partners in the Association of Southeast Asian Nations (ASEAN), such as Laos and Cambodia, as well as with Russia. The Chemical Corps prioritized collaboration with Vietnam's traditional partners. Every year, it sent its cadres and cadets to the Academy of Radioactive Chemical and Biological Incident Prevention for training in Russia.³⁰ The corps also participated in several anti-WMD conferences hosted by the Organisation for the Prohibition of Chemical Weapons, the International Atomic Energy Agency, and the European Union.³¹ The Chemical Corps' cooperation with foreign countries and international organizations reflects Vietnam's multilateral, independent, and self-reliant foreign policy, as well as its historically close defense cooperation with Russia.³² Nevertheless, this does not mean that Vietnam forecloses opportunities to work with other countries. Its multilateral foreign policy supports cooperation with a country when such cooperation does not undermine relations with other countries or inhibit Vietnam's freedom of action more generally.³³

Although the 2019 *Vietnam National Defence White Paper* does not consider WMDs a serious threat, Vietnam by and large welcomes efforts to stop and prevent their proliferation.³⁴ It considers nonstate actors rather than state actors as posing the primary threat of a WMD attack, and so the country is underprepared for a potential Chinese biological attack. Still, Vietnam is not completely oblivious to the possibility that state actors, in addition to terrorist organizations, could use WMDs to threaten its security. In April 2022 the commander of the Chemical Corps, Brigadier General Ha Van Cu, warned about the risks of several "great powers" exploiting the scientific achievements of the fourth industrial revolution to strengthen their WMD arsenals.³⁵ He listed the four major tasks that Standing Agency 81 should undertake to prevent and counter WMD proliferation. First, the agency aims to research and anticipate the sponsorship and proliferation of WMDs to better advise the Ministry of National Defense to come up with timely responses. Second, it will

²⁸ Nguyen Huy Hung, "Lu doan Phong hoa 86 thuc hien 'nhim vu kep'" [Chemical Brigade 86 to Carry Out "Dual Mission"], *National Defence Journal*, April 23, 2021, <http://tapchiquptd.vn/vi/thuc-tien-va-kinh-nghiem/lu-doan-phong-hoa-86-thuc-hien-nhim-vu-kep/16998.html>.

²⁹ "Bo doi Hoa hoc chu dong trien khai nhieu bien phap phong, chong dich COVID-19" [Chemical Corps to Proactively Carry Out Measures to Prevent and Fight the COVID-19 Pandemic], Ministry of National Defense (Vietnam), April 6, 2020, <https://mod.gov.vn/vn/chi-tiet/sa-ttsk/sa-tt-qpan/77a22102-e1f7-4137-9c85-c043efa0efec>; and Nguyen, "Lu doan Phong hoa 86 thuc hien 'nhim vu kep'."

³⁰ "Chemical Corps Actively Joins Defense Relations Activities," *People's Army Newspaper*, February 10, 2020, <https://en.qdnd.vn/military/news/chemical-corps-actively-joins-defense-relations-activities-513802>.

³¹ "Nang cao nang luc phong, chong pho bien vu khi huy diet hang loạt."

³² Ha Van Cu, "Dau an' cong tac doi ngoai quoc phong cua Binh chung Hoa hoc" ["Imprint" of the Chemical Corps' Diplomatic Work], *People's Army Newspaper*, February 9, 2020, <https://www.qdnd.vn/chinh-tri/tin-tuc/dau-an-cong-tac-doi-ngoai-quoc-phong-cua-binh-chung-hoa-hoc-609655>.

³³ "Arming Vietnam: Widened International-Security Relations in Support of Military-Capability Development," International Institute for Strategic Studies, March 20, 2023, <https://www.iiss.org/research-paper/2023/03/arming-vietnam>.

³⁴ *Quoc phong Viet Nam 2019 (Sach trang Quoc phong Viet Nam 2019)* [Vietnam's 2019 Defence White Paper], Ministry of National Defense (Vietnam) (December 2019), http://mod.gov.vn/vn/loi-dung/sa-qpvnsa_qpvn_csqp/sa_qpvn_stqp/268a9f30-8c60-4444-a76e-f2bad429b364.

³⁵ Ha Van Cu, "Nang cao nang luc hoạt động Co quan thuong truc 81 dap ung yeu cau, nhim vu bao ve to quoc" [Strengthening the Operating Capability of Standing Agency 81 to Meet the Requirements and Fulfill the Responsibility of National Defense], *National Defence Journal*, April 19, 2022, <http://m.tapchiquptd.vn/vi/bao-ve-to-quoc/nang-cao-nang-luc-hoat-dong-co-quan-thuong-truc-81-dap-ung-yeu-cau-nhim-vu-bao-ve-to-quoc-18570.html>; and Duy Dong, "Binh chung Hoa hoc chu dong trien khai, chi dao toan dien cong tac phong hoa" [Chemical Corps to Proactively Deploy and Comprehensively Direct Chemical Prevention Work], *People's Army Newspaper*, February 3, 2022, <https://www.qdnd.vn/quoc-phong-an-ninh/tin-tuc/binh-chung-hoa-hoc-chu-dong-trien-khai-chi-dao-toan-dien-cong-tac-phong-hoa-717990>.

review, suggest amendments to, and complete the legal documents on preventing and countering WMDs in service of national interests and international laws. Third, the agency has committed to enhancing cooperation with different ministries, local governments, and international actors, with the goal of comprehensively carrying out this mission. Finally, it will enhance the capacity and functionality of the National Focal Agency on WMD, as well as of itself, to better prevent and counter WMDs.

Although it is unclear to what extent Vietnam's perception of the risk of a hypothetical biological attack has changed in the aftermath of the Covid-19 pandemic, the future development of a national biodefense strategy will be built on the experience gained during those years. It will be important to assess Hanoi's perception of WMD threats in the next defense white paper.

How the United States Could Help Vietnam Counter the Threat of Biological Weapons

Vietnam currently cooperates with the U.S. Export Control and Related Border Security Assistance program to prevent the proliferation of WMDs. Standing Agency 81, for example, has cooperated with the program to host training sessions on how to identify chemical, biological, radiological, and nuclear objects and to discuss a roadmap to build laws on preventing and countering the proliferation of WMDs.³⁶ In August 2021 the United States opened the U.S. Centers for Disease Control and Prevention (CDC) Southeast Asia Regional Office in Hanoi to strengthen Vietnam's pandemic preparedness and response.³⁷ This shows that Vietnam will not shy away from cooperating with the United States on issues that are not politically sensitive. If the bilateral relationship continues along an upward trajectory in the future, the United States and Vietnam could expand cooperation to explicitly prepare for a biological attack from a state actor.³⁸ There are three major areas corresponding to China's coercive threats in which Washington could help Hanoi.³⁹

In terms of China's compellence by denial, first, the United States could help Vietnam deter China's "deployment and employment of biological weapons."⁴⁰ Second, it could assist Vietnam in detecting an imminent Chinese biological attack or in its immediate aftermath to come up with effective intervention. Both deterrence and detection rely on U.S. intelligence and diplomatic support. Because China is a member of the Biological Weapons Convention, the United States can deter China's use of biological weapons by publishing intelligence related to the existence

³⁶ "Hoan thien phap luat ve chong pho bien vu khi huy diet hang loat o Viet Nam" [Completing the Laws on Combating the Proliferation of Weapons of Mass Destruction in Vietnam], *Vietnam Plus*, May 10, 2022, <https://www.vietnamplus.vn/hoan-thien-phap-luat-ve-chong-pho-bien-vu-khi-huy-diet-hang-loat-o-vn/789441.vnp>; and "Tap huan nhan dien hang hoa lien quan den vu khi hoa hoc, sinh hoc, phong xa, hat nhan va chat no cho don vi dau moi khu vuc mien Bac" [Training on the Identification of Goods Related to Chemical, Biological, Radiological, Nuclear Weapons and Explosives for Focal Units in the Northern Region], Ministry of National Defense (Vietnam), November 12, 2022, <http://mod.gov.vn/vn/chi-tiet/sa-ttsk/sa-tt-cmsk/sa-tt-cmsk-17/sa-tt-cmsk-17-thd/tap-huan-nhan-dien-hang-hoa-lien-quan-den-vu-khi-hoa-hoc-sinh-hoc-phong-xa-hat-nhan-va-chat-no-cho-don-vi-dau-moi-khu-vuc-mien-bac>.

³⁷ "Vice President Kamala Harris Opens New CDC Southeast Asia Regional Office in Vietnam," CDC, Press Release, August 25, 2021, <https://archive.cdc.gov/#/details?url=https://www.cdc.gov/media/releases/2021/p0825-new-cdc-office.html>.

³⁸ Khang Vu, "What Vietnam Needs from America: Lessons from a Past Alliance," *Diplomat*, April 28, 2023, <https://thediplomat.com/2023/04/what-vietnam-needs-from-america-lessons-from-a-past-alliance>.

³⁹ Miles Pomper and Richard Pilch, "Asia-Pacific Perspective on Biological Weapons and Nuclear Deterrence in the Pandemic Era," *Journal for Peace and Nuclear Disarmament* 4, no. 1 (2021): 353.

⁴⁰ *Ibid.*, 355.

of a Chinese offensive biological weapon program.⁴¹ Importantly, the United States could help Vietnam build a detection system that can identify an increase in the level of a biological agent in the environment. It could also help screen, as well as diagnose, ill animals or humans and epidemiologically trace back the sources of the disease.⁴² Early warning and quick detection are important for containing pathogens and isolating an infected population. The Vietnamese military could avoid disruptions to its force by preventing a virus from spreading within its ranks.

Third, the United States could provide defense to minimize damage in the event of a large-scale biological attack. Specifically, it could provide Vietnam with resources such as disinfectants, test kits, personal protective equipment, and vaccines. As seen during the Covid-19 pandemic, Vietnam has a strong bureaucracy that can quickly control a pandemic, but it lacks the resources to maintain the fight against a virus. In the summer of 2021, Vietnam's pandemic-fighting efforts showed their weaknesses as its low-cost model could not cope with a new Covid-19 variant.⁴³ Vietnam was able to reopen in 2022 only after it had received sufficient vaccine doses from the West. U.S. intelligence could also help Vietnam fight an outbreak after deterrence fails. In the early days of the pandemic, hackers linked to Vietnam targeted Chinese state organizations to extract information about the virus and ways to contain it.⁴⁴ Thus, Hanoi was quick to react to the first reports of the new virus. U.S. intelligence on the nature of any future pathogens will help Vietnam in this respect. In addition to supplying resources, U.S. funding for Vietnam's research and development could be part of a long-term biodefense strategy. Such a strategy could help Vietnam withstand China's compulsion by punishment through preparing Hanoi for a biological attack against the general population.

China's Potential Responses to U.S.-Vietnam Biodefense Cooperation

China is sensitive to U.S.-Vietnam cooperation and continues to view itself as engaging in a tug-of-war with the United States over Vietnam on different fronts. As a result, its concerns about their relationship progressing in an anti-China fashion will increase when the United States and Vietnam enhance their cooperation beyond pandemic preparation to help Hanoi craft a national biodefense strategy.⁴⁵ The Chinese government's behavior and Chinese media's reaction to Vice President Kamala Harris's August 2021 visit to Vietnam suggest as much. A day before the visit, China delivered a shipment of 200,000 Covid-19 vaccine doses to Vietnam.⁴⁶ China also promised to donate another 2 million doses to undermine the United States' gift of 1 million doses.⁴⁷

⁴¹ On other cases of intelligence as deterrence, see Vivian Salama, William Mauldin, and Nancy A. Youssef, "U.S. Considers Release of Intelligence on China's Potential Arms Transfer to Russia," *Wall Street Journal*, February 23, 2023, <https://www.wsj.com/articles/u-s-considers-release-of-intelligence-on-chinas-potential-arms-transfer-to-russia-8e353933>.

⁴² Pomper and Pilch, "Asia-Pacific Perspective on Biological Weapons and Nuclear Deterrence in the Pandemic Era," 356.

⁴³ Huong Le Thu, "Delta Variant Outbreak Challenges Vietnam's Covid-19 Response Strategy," Brookings Institution, August 11, 2021, <https://www.brookings.edu/blog/order-from-chaos/2021/08/11/delta-variant-outbreak-challenges-vietnams-covid-19-response-strategy>.

⁴⁴ Jack Stubbs and Raphael Satter, "Vietnam-Linked Hackers Targeted Chinese Government over Coronavirus Response: Researchers" Reuters, April 22, 2020, <https://www.reuters.com/article/us-health-coronavirus-cyber-vietnam/vietnam-linked-hackers-targeted-chinese-government-over-coronavirus-response-researchers-idUSKCN2241C8>.

⁴⁵ Khang X. Vu, "External Coercion, Internal Accommodation: China's Wedge Strategies Towards the Vietnam-United States Partnership, 2013-2022," *Journal of Contemporary China* (June 24, 2023).

⁴⁶ Laura Zhou, "China Delivers More Covid-19 Vaccines to Vietnam on Eve of Kamala Harris Trip," *South China Morning Post*, August 24, 2021, <https://www.scmp.com/news/china/diplomacy/article/3146181/china-delivers-more-covid-19-vaccines-vietnam-eve-kamala>.

⁴⁷ Shibani Mahtani, "Harris, in Vietnam, Gets a Dose of China's Challenge to the U.S.," *Washington Post*, August 25, 2021, https://www.washingtonpost.com/world/asia_pacific/kamala-harris-vietnam-china-coronavirus/2021/08/25/77e51efa-0564-11ec-b3c4-c462b1edcfc8_story.html.

Chinese media also warned against the United States using South China Sea issues to “drive a wedge in China-Vietnam relations.”⁴⁸ From China’s perspective, influence over Vietnam is a zero-sum game, and even an apolitical issue such as vaccine donations can be sensitive.

Although China publicly maintains that it does not have a biological weapon program, it will perceive U.S.-Vietnam biodefense cooperation as a part of comprehensive security cooperation between the two countries. From China’s perspective, U.S.-Vietnam cooperation can rarely be bilateral in nature as long as China has a conflictual relationship with either country.⁴⁹ U.S.-Vietnam biodefense cooperation could create a security dilemma that increases the probability of China using biological weapons or engaging in acts of coercion against Vietnam that leave it in a relatively worse security position. Further, if Hanoi understands such a dilemma, it will be reluctant to cooperate with Washington beyond pandemic preparation, even if it recognizes that biodefense cooperation is not anti-China in nature. This is because maintaining a stable relationship with China is more important for Vietnam than upgrading its relationship with the United States.⁵⁰ Hence, it is important that the United States and Vietnam gauge Chinese reactions to avoid a security dilemma and to enhance the level of biodefense cooperation accordingly.

First, the United States and Vietnam might welcome China’s input or even cooperation in the construction of a national biodefense strategy for Vietnam. In other words, this should not be a bilateral undertaking between Hanoi and Washington. If Vietnam’s pattern of defense cooperation with foreign countries offers any clues, it is likely that Russia will play an important, if not more important, role than the United States. This is because Vietnam’s Chemical Corps has already enjoyed a close relationship with Russia’s Academy of Radioactive Chemical and Biological Incident Prevention, and its equipment and practices are likely modeled after those of Russia. Considering the poor state of U.S.-Russia relations in the aftermath of the war in Ukraine, as well as the growing U.S.-China rivalry in the Indo-Pacific, it will be difficult for the United States to cooperate with Russia or China on Vietnam’s national biodefense strategy. However, from Hanoi’s perspective, U.S. assistance should not substitute for but complement other countries’ assistance.⁵¹ Vietnam’s diplomatic balancing will continue to have an impact on how Hanoi cooperates with foreign countries over specific issues.

Second, to avoid provoking China unnecessarily, the United States and Vietnam could focus first on areas of cooperation that are security-insensitive but vital for public health. In other words, they could focus on Vietnam’s civilian healthcare infrastructure in preparation for the next pandemic rather than for biological attacks from state actors. The opening of the CDC Southeast Asia Regional Office in Hanoi is a case in point. This focus will still help Vietnam deter and defend against China’s potential use of biological weapons because there are minimal differences in terms of impact on the Vietnamese population between a natural outbreak and China’s compulsion by punishment. Vietnam’s successful response to Chinese coercion depends on the resilience of its public health system.

⁴⁸ Chen Xiangmiao, “Harris’ Southeast Asian Trip Cannot Roil South China Sea Waters,” *Global Times*, August 19, 2021, <https://www.globaltimes.cn/page/202108/1231924.shtml>.

⁴⁹ Van Ness, *Revolution and Chinese Foreign Policy*; and Ross, *The Indochina Tangle*, 8.

⁵⁰ Khang Vu, “Why the Current Stall in U.S.-Vietnam Relations Is Necessary for Vietnam’s Security,” *Diplomat*, November 17, 2022, <https://thediplomat.com/2022/11/why-the-current-stall-in-u-s-vietnam-relations-is-necessary-for-vietnams-security>.

⁵¹ Khang Vu, “Arms Control Is Not Just about Arms,” Lowy Institute, Interpreter, November 2, 2021, <https://www.lowyinstitute.org/the-interpreter/arms-control-not-just-about-arms>.

An approach that prioritizes public health would not neglect the armed forces. A resilient public health system benefits the armed forces, too, because it reduces the amount of resources diverted away from the front line. For a resource-constrained state like Vietnam, the system's improvement matters for long-term defense planning. The Chemical Corps could shift the burden of public pandemic fighting onto other domestic actors, such as the Ministry of Health or hospitals, and focus on preparations for different battlefield scenarios. Importantly, Vietnam's system of civil-military relations allows for extensive sharing of expertise and close cooperation between the military and civilian agencies because the distinction between the two actors is minimal, as both are under the jurisdiction of the Communist Party of Vietnam (CPV).⁵² As the CPV often states, "the population and the military are like fish and water."⁵³ A more prepared population will certainly translate into a more prepared army.

The United States should only work directly with the Vietnamese armed forces to counter Chinese compulsion by denial if, and only if, the China-Vietnam relationship sharply deteriorates and the possibility of China launching attacks against Vietnam is high. Such a scenario is unlikely in the short to medium term due to Vietnam's neutral foreign policy. If China-Vietnam relations are stable, the United States' close security cooperation with Vietnam to enhance its armed forces' biodefense capacity could trigger a security dilemma and invite unnecessary Chinese retaliation. For Vietnam, the optimal strategy is to minimize the possibility of Chinese punishment while expanding cooperation with an extraregional great power.⁵⁴

Conclusion

This essay has shed light on the danger of a potential biological weapon attack carried out by China against Vietnam to raise the costs of Vietnamese resistance against Chinese coercion. Biological weapons present a more realistic threat to Vietnam than both nuclear and chemical weapons due to their low cost of production, their impact on the target's armed forces and society, and their secrecy. The essay also proposes options for the United States to help Vietnam prepare for, deter, and defend against such a possibility. As a resource-scarce country, Vietnam will look for U.S. assistance in early detection of a biological weapon attack through the sharing of intelligence and in the post-attack containment of the virus through the donation of vaccines, personal protective equipment, test kits, and disinfectants.

In a phone conversation between President Joe Biden and CPV general secretary Nguyen Phu Trong in March 2023, the United States expressed its support for "a strong, prosperous, resilient, and independent Vietnam."⁵⁵ The addition of "resilient" to the United States' Vietnam policy indicates Washington's respect for Hanoi's "bamboo diplomacy" of flexibility but resilience.⁵⁶ The United States, however, could go even further. A resilient Vietnam means a Vietnam that is able

⁵² Alexander L. Vuving, "The Architecture and Evolution of Civil-Military Relations in Vietnam," in *Asian Military Evolutions: Civil-Military Relations in Asia*, ed. Alan Chong and Nicole Jenne (Bristol: Bristol University Press, 2023).

⁵³ "Tinh quan dan ca nuoc" [The People and the Military Are Like Fish and Water], *People's Army Newspaper*, May 21, 2014, <https://www.qdnd.vn/van-hoa/doi-song/tinh-quan-dan-ca-nuoc-413293>.

⁵⁴ Vu, "Why the Current Stall in U.S.-Vietnam Relations Is Necessary for Vietnam's Security."

⁵⁵ "Readout of President Joe Biden's Call with General Secretary Trong of Vietnam," White House, Press Release, March 29, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/29/readout-of-president-joe-bidens-call-with-general-secretary-trong-of-vietnam>.

⁵⁶ Duy Linh, "Khi Mỹ thừa nhận 'ngoại giao cây tre'" [When the United States Recognized "Bamboo Diplomacy"], *Tuoi Tre*, March 31, 2023, <https://tuoitre.vn/khi-my-thua-nhan-ngoai-giao-cay-tre-20230330215919685.htm>; and Phan Xuan Dung and To Minh Son, "What's Behind Vietnam's 'Bamboo Diplomacy' Discourse?" *Fulcrum*, July 22, 2022, <https://fulcrum.sg/whats-behind-vietnams-bamboo-diplomacy-Sdiscourse>.

to absorb Chinese coercion without having to acquiesce to Chinese demands. While the risk of a biological attack by China is low, Vietnam's lack of a national biodefense strategy is worrisome, given the growing ease of producing and delivering pathogens. It is thus important that the country come up with such a strategy, and this is where the United States can step in to help.

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A Philippine Perspective on China's WMD Threat

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EXECUTIVE SUMMARY

This essay examines the threat to the Philippines from China's WMDs and argues that this threat is seen largely in scenarios that are related to the direct involvement of the Philippines in a conflict arising from China's strategic competition with the U.S.

MAIN ARGUMENT

Although China poses a serious challenge to Philippine interests, particularly in the West Philippine Sea, this maritime dispute does not involve China's nuclear forces directly. China's forceful assertiveness of its claim to exclusive sovereignty over almost the entire South China Sea (with very little basis in international law and without a specific scope) has been conducted using tactics that fall short of violent armed action. Although People's Liberation Army Navy ships have been observed in proximate distance from the coast guard ships involved in these activities, they have so far not directly engaged in any action against Philippine ships or personnel. Neither has the China Coast Guard nor its auxiliaries used armed force, though the level of violence utilized has been sufficient enough to damage Philippine ships and injure Filipinos in these ships. While of concern to Philippine defense and security planners, China's nuclear weapons development is largely seen as consequential in the context of the Philippines' alliance with the U.S. Given the asymmetry of capabilities between China and the Philippines, it is not likely that nuclear weapons would be utilized by the former against the latter. Nuclear weapons, however, would most likely be a factor in any conflict between Chinese and U.S. forces. Because of the Philippines-U.S. alliance and the defense agreement that has allowed the U.S. military access to deployment sites in the Philippines, the possibility that the Philippines could be involved in a conflict between China and the U.S. is more likely now than it was ten years ago.

POLICY IMPLICATIONS

- Given asymmetries in military capabilities, the Philippines will rely heavily on U.S. military cooperation in asserting its claim over the West Philippine Sea.
- At the same time, the Philippines will enhance security cooperation with other allies, especially Japan and Australia.
- As far as the issue of WMDs is concerned, the Philippines will take a normative and regional approach toward trying to reduce the threat of these weapons being used in the region.

The Philippines considers China to be its primary threat geopolitically. China has encroached on land features and waters claimed by the Philippines in the South China Sea (and referred to proprietarily by the country as the West Philippine Sea) over which the Philippines has sovereign rights in accordance with the United Nations Convention on the Law of the Sea (UNCLOS). While the dispute has intensified since the accession to power of President Ferdinand Marcos Jr. in 2022, it started in 1995 when China established what it referred to as “fishermen’s huts” on Mischief Reef—a land feature claimed by the Philippines.

China’s claim to waters and land features in the South China Sea is the most extensive of any of the five different claimants geographically proximate to the area. It is based on asserted rights to historic waters covered by the so-called nine-dash line. An arbitral court in The Hague ruled in 2016 that China’s claim has no basis in UNCLOS. While the other claimants have sought to align their claims with UNCLOS, and consequently have largely moderated them, China has insisted on the legality of its extensive claim, refused to accept the 2016 arbitral ruling, and grown more assertive in the disputed area. Specifically, it has used what the United States has referred to as “gray zone” tactics to maintain a legal fiction of taking measures short of the use of armed force in its efforts to enforce its claims.¹ The increased presence of Chinese vessels and harassment of Filipino fishers and Philippine Coast Guard and Navy ships have made China the principal concern of the Philippines in geopolitical terms.

The threat to the Philippines from China, however, has largely not been associated with weapons of mass destruction. There has been a recognition of the WMD threat to the region at large, but very few concerns have been expressed about WMDs targeting the Philippines. In fact, the WMD capability of China and the threat it poses to the Philippines is generally connected with the latter’s increasingly strong security relations with the United States. This essay examines the threat to the Philippines from China’s WMDs and argues that this threat is seen largely in scenarios that are related to the direct involvement of the Philippines in a conflict arising from China’s strategic competition with the United States.

The WMD Dimension of the China Threat

The geopolitical differences that the Philippines has with China largely derive from their territorial dispute. The dispute escalated after China’s seizure of Scarborough Shoal in 2012 and the subsequent arbitral decision from The Hague in 2016 nullifying the legitimacy of China’s claim to these disputed land features and waters. This, however, has not translated into any great concern over the possession and possible use of WMDs by China against the Philippines.

The National Security Policy of the Philippines under the Duterte administration (2017–22) mentions that one of the most important threats facing the country “is the proliferation of weapons of mass destruction...which has come to occupy center stage in international politics... [These] pose an unprecedented risk in terms of their potential for large-scale destruction and the indiscriminate nature of their effects.”² In the same document, however, a section discussing China does not mention its WMD capability as a recognizable threat. Instead, it talks about “policy concerns” arising from “socio-cultural interactions, significant trade and investments, as

¹ Bonny Lin et al., “A New Framework for Understanding and Countering China’s Gray Zone Tactics,” RAND Corporation, Research Brief, 2022, https://www.rand.org/pubs/research_briefs/RBA594-1.html.

² Philippine Government, *National Security Policy 2017–2022* (Manila, 2017), 16, <https://nsc.gov.ph/attachments/article/NSP/NSP-2017-2022.pdf>.

well as territorial claims in the [West Philippine Sea].”³ This shows that—despite statements made by former president Rodrigo Duterte emphasizing the disparity in military capability between the Philippines and China as a rationale for de-emphasizing the territorial dispute between the two countries—the obvious nuclear weapons capability of China has never been a specific concern of the Philippines throughout this episode in the bilateral relationship. China’s suspected biological and chemical weapons programs are not specifically identified as sources of concern by Philippine security policymakers either.

Even an earlier iteration of the National Security Policy of the Philippines seems to have given little attention to China’s WMD capabilities. The 2011–16 policy of the Aquino administration notes the following:

[S]ome nations in the region have developed or are capable of developing weapons of mass destruction (chemical, biological, radiological, and nuclear) as well as their associated delivery systems. States with aggressive intentions [sic] in the region and the capability to produce or access to such weapons might use them for geopolitical “blackmail.” Furthermore, these weapons could become available for use by state-sponsored terrorists and radical groups.⁴

China is easily identified in the document as one of the “states with aggressive intentions in the region” that could use WMD weapons for “geopolitical blackmail.”⁵ Although Philippine-China relations reached a nadir during the Aquino administration, the 2011–16 National Security Policy was finalized before the Scarborough Shoal faceoff in 2012 and the eventual submission of the case to the arbitral court in The Hague, which accelerated the downturn in bilateral relations. Yet China’s WMDs are also not discussed in subsequent policy and strategy documents. In sum, neither the National Security Policy documents issued under the Aquino and Duterte administrations nor the National Security Strategy of the Duterte administration specifically mention any need to address a WMD threat from China.⁶

Indirect Threats from China’s WMD Capability

The omission of China’s WMDs from policy and strategy documents does not mean that the threat does not exist or that it is not being considered by strategists and security analysts in the Philippines. It simply means that a direct threat from China’s nuclear weapons is not recognized by those involved in determining security policy regarding impending threats. The U.S. Department of Defense report to Congress in 2020 on the military capabilities of China emphasized the fact that China seeks to develop its own nuclear triad within the next ten years.⁷ At present, China has “more than 1,250 ground-launched ballistic missiles (GLBMs) and ground-launched cruise missiles (GLCMs) with ranges between 500 and 5,500 kilometers.”⁸ These are armed with

³ Philippine Government, *National Security Policy 2017–2022*, 14.

⁴ Philippine Government, *National Security Policy 2011–2016* (Manila, 2011), 13–14, <https://www.officialgazette.gov.ph/downloads/2011/08aug/NATIONAL-SECURITY-POLICY-2011-2016.pdf>.

⁵ *Ibid.*, 14–15.

⁶ Philippine Government, *National Security Strategy 2018* (Manila, 2018), <https://www.officialgazette.gov.ph/downloads/2018/08aug/20180802-national-security-strategy.pdf>.

⁷ U.S. Department of Defense, *Military and Security Developments Involving the People’s Republic of China 2020* (Washington, D.C., 2020), <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>.

⁸ *Ibid.*, ii.

non-nuclear warheads. The Philippines is well within range of these weapons systems, which include medium-range ballistic missiles like the DF-21 and intermediate-range ballistic missiles like the DF-26.

China's nuclear forces are also being modernized. While these forces are mainly intended to threaten U.S. targets, the deployment of more modern and capable nuclear weapons systems means they could be used against targets in the Philippines, including U.S. forces that might be deployed there under the Enhanced Defense Cooperation Agreement (EDCA). It is more likely, however, that if a conflict were to arise and these military targets were attacked, they would be hit by weapons with non-nuclear warheads.

Strategic assessments made by the United States also emphasize the danger of China possessing a more modernized nuclear capability because it could increase its confidence in “intensify[ing] conventional conflicts.”⁹ This simply highlights the dangers of China's more aggressive intentions and activities in relation to Japan, Taiwan, and the South China Sea. These activities are taking place in the wider context of the competition between the United States and China, with Southeast Asia being a major area of contention. The Philippines' relationship with the United States already places it in the center of this competition as a target of political influence and a likely area of military and naval contention. China has warned the Philippines that the EDCA sites that will house rotational deployments of U.S. forces will drag the Philippines into “the Taiwan question” and contribute to the undermining of stability in the region.¹⁰

Imagining the Chinese WMD Threat: Potential Scenarios

The deployment of U.S. forces in the Philippines has long been viewed as a potential target of a missile attack, whether nuclear-armed or not. This is not a threat specific to China but was one of the arguments made by Filipino nationalists protesting the presence of U.S. military bases in the Philippines during the Cold War. The bases in Subic and Clark, as well as other smaller facilities, were described as “bases of [Philippine] insecurity” by critics such as Francisco Nemenzo, Edmundo Garcia, and Roland Simbulan because they were potential magnets for an attack, particularly a nuclear attack, from the Soviet Union.¹¹ Protests against the security relationship between the Philippines and the United States diminished after the Philippine Senate refused to ratify a renewal of the Military Bases Agreement in 1991.

The signing of the EDCA between the Philippines and the United States in 2014 gave renewed scope for these protests and the concerns on which they are based. The EDCA covers a number of areas of cooperation between the two allies, but its key element is the identification of sites that would be used by deployed U.S. forces on a rotational basis. The EDCA was signed at the height of Chinese assertiveness directed against the Philippines in the South China Sea after the Scarborough Shoal faceoff of 2012 and coincided with the Obama administration's rebalance

⁹ U.S. Office of the Director of National Intelligence, “Annual Threat Assessment of the National Intelligence Community,” February 6, 2023, 8, <https://www.odni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf>.

¹⁰ Tina G. Santos, “China: New EDCA Sites to ‘Seriously Harm’ PH,” *Philippine Daily Inquirer*, March 13, 2023, <https://globalnation.inquirer.net/211869/china-new-edca-sites-to-seriously-harm-ph>.

¹¹ Edmundo Garcia and Francisco Nemenzo, *The Sovereign Quest: Freedom from Foreign Military Bases* (Quezon City: Claretian Publications, 1988); and Roland G. Simbulan, *The Bases of Our Insecurity: A Study of the U.S. Military Bases in the Philippines* (Manila: BALAI Fellowship, 1983).

to Asia. There is very little doubt that the Philippines' decision to sign the agreement was a response to China's increasingly aggressive actions in the South China Sea.¹²

Progress on the EDCA stalled under the Duterte administration, which was more inclined to seek a rapprochement with China. No movement on where and when U.S. forces could start deploying in the Philippines took place between 2016 and 2022. The accession of Ferdinand Marcos Jr. to the presidency in 2022, however, saw quick progress on this front. The five sites initially agreed on for the U.S. military's rotational presence increased to nine with the identification of four additional sites by both the United States and the Philippines. It was this development that led to the revival of discussions about U.S. bases in the Philippines being magnets for nuclear or non-nuclear attacks.¹³

In fact, the main military threat posed by China to the Philippines is in the context of the U.S.-China geopolitical rivalry. Aside from concerns over an unwanted and unforeseen incident involving Philippine and Chinese forces in the South China Sea, which could escalate very quickly because of the high level of tension, the more dangerous scenario with WMD-related action on the part of China against the Philippines involves Taiwan. If China were to try to force reunification using military assets, it is expected that the United States would act to support Taiwan. In this scenario, those forces deployed at the EDCA sites would most likely be targeted by China. Although the use of conventional weapons by China seems more likely in this scenario, Philippine policy discussions have not dismissed the threat of WMDs.

Philippine Responses

In agreeing to the nine sites for the rotational deployment of U.S. forces, the Philippines is responding to China's assertiveness in the territorially disputed areas of the South China Sea. The intended effect of U.S. forces in the Philippines is one of deterrence, especially in relation to Chinese encroachments in Philippine-claimed territories. However, the concern persists that instead of being deterred China might be provoked into taking more rash actions. Nonetheless, strengthening its alliance with the United States is the most immediate response that the Philippines can take in this situation. A longer-term approach would involve modernizing the Armed Forces of the Philippines. While legislation has been passed to support this approach, its sustainability has been hampered by shifting security priorities and bureaucratic rules and regulations.¹⁴

Some officials have proposed building a Philippine nuclear deterrent capability to deter Chinese actions in the South China Sea. This idea was proposed in 2019 by former senator, and current senior legal counsel to President Marcos, Juan Ponce Enrile, who argued that the constitutional ban on nuclear weapons in the Philippines should be removed because "a small country can protect

¹² Renato Cruz De Castro, "The 21st Century Philippine-U.S. Enhanced Defense Cooperation Agreement (EDCA): The Philippines' Policy in Facilitating the Obama Administration's Strategic Pivot to Asia," *Korean Journal of Defense Analysis* 26, no. 4 (2014): 427-46.

¹³ See, for example, Ricardo Saludo, "What Filipinos Must Know about the EDCA Bases," *Manila Times*, April 23, 2023, <https://www.manilatimes.net/2023/04/23/opinion/columns/what-filipinos-must-know-about-the-edca-bases/1888278>.

¹⁴ The Revised Armed Forces of the Philippines Modernization Program was passed in 2012. The act extended the law passed in the wake of the Mischief Reef issue in 1995 for another fifteen years. Since then, however, the inconsistency of its implementation and the continuing weakness of the Philippines' external defense capability has been noticeable in the country's confrontations with China over the West Philippine Sea. See "House Ratifies Bicam Report on AFP Revised Modernization Program," House of Representatives (Philippines), Press Release, September 28, 2012, <https://www.congress.gov.ph/press/details.php?pressid=6474>. For a commentary on the shifting policy priorities of the Philippines, see Renato Cruz De Castro, "Developing a Credible Defense Posture for the Philippines: From the Aquino to the Duterte Administrations," *Asian Politics and Policy* 9, no. 4 (2017): 541-63.

itself against the superpowers if they have nuclear weapons.”¹⁵ Enrile had previously pushed for an amendment to remove this provision in the 1987 constitution in order to deter China’s bullying in the South China Sea. The idea of developing a nuclear deterrent was opposed by then secretary of national defense Delfin Lorenzana, who noted that the Philippines was a signatory to the Nuclear Non-Proliferation Treaty and cited its constitutional prohibition on both the development of nuclear weapons and on war as an instrument of state policy.¹⁶ There are sitting senators in the Philippine Senate, however, who have expressed a willingness to explore the idea of amending the constitution to lift this ban.¹⁷ Yet the whole idea does not seem to have gained traction in policy circles in the Philippines.

Nonetheless, the Philippines has increasingly sought to address its concerns with China through cooperation not only with the United States but with other partners in the region as well. In particular, Japan has actively assisted the Philippines with its military modernization. It has provided the Philippine Coast Guard with new ships, and during a visit to Japan in 2023, President Marcos signed an agreement with Prime Minister Fumio Kishida that would allow Japanese forces to be involved in training exercises for humanitarian assistance and disaster relief in the Philippines. The agreement is largely seen as broadening military cooperation between the two countries “and could lead to similar agreements between Japan and other Southeast Asian nations.”¹⁸

Similarly, Australia has been increasing its defense cooperation with the Philippines. A status of visiting forces agreement was signed and ratified between the two countries in 2012. At the time, the Philippines’ problems with China were seen as contributing to the negotiation of this agreement.¹⁹ In any case, Australia and the Philippines are exploring how it could lead to more enhanced cooperation on defense matters. In September 2023 a bilateral declaration was issued by Australia and the Philippines stating that they would conduct joint exercises and bilateral patrols in the South China Sea to “enhance and strengthen...extensive and long-standing defense and security cooperation” between the two countries.²⁰

These efforts by the Philippines to modernize the external defense capability of its armed forces, however, are more indicative of the country’s general response to the threat posed by China than a specific concern over China’s WMD capability. The WMD issue is addressed in a more consistent and direct way through diplomatic efforts made by the Philippine government to push nuclear risk reduction, especially at the regional level. This can be seen in the ASEAN Regional Forum, where the Philippines has given strong and unswerving support for measures to reduce nuclear risk and

¹⁵ Xave Gregorio, “Enrile Wants to Lift Constitutional Ban on Nukes. Here’s Why Philippines Can’t Do That,” *Philippine Star*, March 22, 2023, <https://www.philstar.com/headlines/2023/03/22/2253616/enrile-wants-lift-constitutional-ban-nukes-heres-why-philippines-cant-do-that>.

¹⁶ Jeannette I. Andrade, “Defense Chief Rejects Dev’t of Nuclear Arms,” *Philippine Daily Inquirer*, April 22, 2019, <https://newsinfo.inquirer.net/1109064/defense-chief-rejects-devt-of-nuclear-arms#>.

¹⁷ It was reported that Senate constitutional amendments panel chairperson Robinhood Padilla and Senate defense panel chairperson Jinggoy Estrada had agreed with Enrile’s stance. Padilla even expressed the idea that “he might pursue this amendment to the Constitution.” See Gregorio, “Enrile Wants to Lift Constitutional Ban on Nukes.”

¹⁸ Mari Yamaguchi, “Japan, Philippines Agree to Sharply Boost Defense Ties,” Associated Press, February 9, 2023, <https://apnews.com/article/japan-government-philippines-lloyd-austin-ferdinand-marcos-jr-fumio-kishida-f817df7f6b0131dcff3bbccb2b103c79>.

¹⁹ See Richard Javad Heydarian, “The Philippines and Australia: A New Golden Era of Strategic Relations?” Lowy Institute, Interpreter, September 1, 2023, <https://www.lowyinstitute.org/the-interpreter/philippines-australia-new-golden-era-strategic-relations>.

²⁰ Aaron-Matthew Lariosa, “Australia, Philippines Commit to Strategic Partnership, Pledge Joint Patrols,” USNI News, September 11, 2023, <https://news.usni.org/2023/09/11/australia-philippines-commit-to-strategic-partnership-pledge-joint-patrols>.

cooperate on chemical, biological, radiological, and nuclear (CBRN) responses.²¹ At the United Nations in October 2022, the Philippines officially underscored its position to “remain committed to regional cooperation within the framework of ASEAN and ASEAN-led mechanism[s], including in the area of CBRN response and nuclear risk reduction.”²²

Once again, however, it must be emphasized that these efforts focused on CBRN systems reflect a more general understanding of this threat. Most references made by ASEAN (which the Philippines fully supports) regarding concerns about nuclear proliferation are associated with tensions and developments on the Korean Peninsula.²³ At the same time, non-nuclear concerns about WMDs, especially chemical and biological weapons, have been described by those involved in these discussions as a wild card scenario still associated with terrorism.²⁴ Nonetheless, despite the low level of concern about this threat, the Philippines has undertaken basic measures to address it at operational levels. Specifically, the country has sent personnel to training programs designed to counter the use of WMDs. The U.S. Defense Threat Reduction Agency, for example, conducted a training series, including a two-week course in May 2022 with the Philippine Bureau of Fire Protection on countering WMDs and reducing biological threats.²⁵ This training highlights the fact that the United States remains the principal partner of the Philippines on WMD deterrence and response.

The Partnership with the United States

Given that an attack against U.S. facilities in the Philippines would trigger the Mutual Defense Treaty’s response mechanism, the Philippines hopes that the U.S. military presence at the EDCA sites will act as a deterrent against any such attacks, particularly one that involves WMD systems. There has been no serious attempt, however, to understand and discuss the deterrence rationale behind the Mutual Defense Treaty and the EDCA in the context of nuclear or WMD deterrence. The Philippines has never sought any discussions on the nature of an extended deterrence strategy in connection with the U.S. presence in the Philippines. In fact, extended deterrence seems to be a function of the alliance, and more particularly the EDCA sites, that is largely assumed rather than planned. At the same time, the Philippines tends to de-emphasize this aspect of the alliance relationship. Language in the EDCA specifically includes the prohibition of the pre-positioning of CBRN weapons and whatever else might compromise the Philippines’ international obligations under the “Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction” and the “Convention on the Prohibition of the

²¹ ASEAN Regional Forum, “ASEAN Regional Forum Statement on Reiterating Commitment to Preserve Southeast Asia as a Nuclear Weapon-Free Zone,” August 5, 2022, available at European External Action Service, https://www.eeas.europa.eu/eeas/asean-regional-forum-statement-reiterating-commitment-preserve-southeast-asia-nuclear-weapon_en.

²² Diane Shayne D. Lipana, “Thematic Debate Cluster 6: Regional Disarmament Measures Security,” statement before the First Committee of the 77th Session of the United Nations General Assembly, New York, October 25, 2022, https://www.un.int/philippines/statements_speeches/thematic-debate-cluster-6-regional-disarmament-measures-security.

²³ See, for example, the ASEAN foreign ministers’ statement issued on July 13, 2023, calling North Korea to task for the ballistic missile tests and launches it had conducted on July 12, 2023, and the days prior. The statement reiterated the usual calls to “de-escalate tension and... for peaceful dialogue among concerned parties, including to create a conducive environment towards the realisation of lasting peace and stability in a denuclearised Korean Peninsula.” See “ASEAN Foreign Ministers’ Statement on the Ballistic Missile Launch on the Korean Peninsula,” ASEAN, July 13, 2023, <https://asean.org/wp-content/uploads/2023/07/AMS-Statement-on-Korean-Peninsula-1.pdf>.

²⁴ Ioannis Galatas, “Prevention of CBRN Materials and Substances Getting into the Hands of Terrorists,” in *Handbook of Terrorism Prevention and Preparedness*, ed. Alex P. Schmid (The Hague: International Centre for Counter-Terrorism Press, 2021), 538.

²⁵ “U.S., Philippines Train to Counter Weapons of Mass Destruction,” U.S. Indo-Pacific Command, May 16, 2022, <https://www.pacom.mil/Media/News/News-Article-View/Article/3033112/us-philippines-train-to-counter-weapons-of-mass-destruction>.

Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction.” More specifically, the EDCA prohibits the pre-positioning of nuclear weapons in the Philippines.²⁶

While extended deterrence has been largely ignored as a topic of discussion and negotiation from the perspective of the Philippines, Manila has apparently been showing some interest in missile defense systems. An exercise conducted on March 29, 2023, marked “the first-ever amphibious insertion of a Patriot missile system in the Philippines.”²⁷ This drill was part of Balikatan 22, which involved 5,100 U.S. and 3,800 Philippine troops. In terms of both the number of troops participating and the defense technology involved, the exercise represented an upgrade in the level of cooperation between the two countries.

The Philippines is exploring the possibility of holding joint patrols with the U.S. Navy in the South China Sea to reinforce the deterrent of a constant U.S. military presence in the Philippines. This option, however, is seen as a complement to U.S. assistance to the modernization of the Philippines’ military capability to undertake independent operations in defense of Philippine sovereignty. The United States has also encouraged its allies in the region to increase their engagement with the Philippines.

Moreover, very little in these measures, including in the Philippines’ cooperation with the United States, is directly in response to perceived threats of China’s WMD capability. Instead, they are focused on mobilizing diplomatic support and resources (especially military resources) to be able to oppose China’s activities in the South China Sea that seek to forcefully assert its maritime claims to the exclusion of the legitimate (by international law standards) claims of the Philippines.

Conclusion

The Philippines considers China to be a threat to its territorial interests in the region, particularly its claims to land features and waters in the South China Sea. It does not, however, consider China’s WMDs to be a specific threat. The threat from China’s modernizing WMD capability is largely seen in broad and indirect terms. Nonetheless, this capability has heightened China’s confidence in the pursuit of its core interests in the disputed territories in the South China Sea, particularly with regard to Taiwan.

In this context, the danger posed by China’s WMDs is amplified by the intensifying strategic competition between the United States and China. From Beijing’s perspective, the United States’ strategy is focused on encircling China with hostile bases and allies in order to “secure its hegemony and selfish geopolitical interests.”²⁸ In this context, China’s response will most likely involve (at least initially) conventional capabilities. The Philippines thus probably faces a more serious direct threat from the improvements in China’s non-nuclear missile capability than its WMD capability.

²⁶ “Agreement between the Government of the United States of America and the Government of the Republic of the Philippines on Enhanced Defense Cooperation,” April 28, 2014, <https://www.state.gov/wp-content/uploads/2019/02/14-625-Philippines-Defense-Cooperation.pdf>.

²⁷ Seth Robson, “U.S. Military Marks a Patriot Air-Defense First During Balikatan Drills in the Philippines,” *Stars and Stripes*, April 4, 2022, <https://www.stripes.com/branches/army/2022-04-04/balikatan-philippines-us-army-patriot-air-defense-marine-corps-5575300.html>.

²⁸ Gaea Katreena Cabico, “China: EDCA Expansion to ‘Seriously’ Harm Philippines’ Interest, Regional Stability,” *Philippine Star*, March 12, 2023, <https://www.philstar.com/headlines/2023/03/12/2251136/china-edca-expansion-seriously-harm-philippines-interest-regional-stability>.



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