

XI's NUCLEAR GARDEN: OF SPRAWLING SILOS AND SOBERING MESSAGES

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The size of China's nuclear arsenal has been in particular focus over the last few months. In June 2021, the Swedish think tank, SIPRI, released its annual report on assessment of militaries across the globe. On China's nuclear weapons, it indicated an increase of as many as 30 nuclear warheads in the last year. This has brought up the estimated number of nuclear warheads to 350 as against 320 in 2020. This also makes China's nuclear arsenal the fastest growing amongst the nine nuclear-armed states.

Soon after the SIPRI report, some American analysts reported sighting new silos being constructed at three different sites in China. Drawing upon commercial satellite imagery, observant China watchers identified more than 200 new missile silos at different stages of construction near the northwest city of Yumen in Gansu province,¹ near Hami² and near Ordos.³ Besides these, expansion activity was also noticed at the PLA

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1. This was disclosed by James Martin Centre for Non-proliferation Studies, Middlebury Institute in late June. Washington Post, June 30, 2021.
2. This was disclosed by the Federation of American Scientists in late July. Construction of this field housing a 110 silos is suspected to have started in Feb 2021.
3. This was disclosed by a military research unit at Air University in mid-August. Its construction is estimated to have started in Apr/May 2021 and it currently appears to show 40 silos.

India would be prudent to draw its own judgments about these developments, juxtaposing the evident capability build-up with a deeper understanding of China's overall approach to nuclear weapons and its expressed threat perceptions.

Rocket Forces (PLARF) training site near Jilantai in inner Mongolia.⁴

These discoveries have, not surprisingly, generated considerable debate about the possible motivations for such nuclear expansion by China. In the US, questions have been raised and alarm expressed at what these developments portend for the future of China's nuclear arsenal, posture and doctrine. Given that the US has the best technical means to monitor China's activities, as also a battery of official and non-governmental China observers, assessments from Washington are always prolific. Beijing, though, has been tight-lipped on the issue, neither confirming nor denying the discoveries or assessments.

Geographically close to China and in the direct crosshairs of its expansionist and aggressive behaviour at the disputed borders, India too is keenly monitoring these developments, as well as American interpretations of the same. However, India would be prudent to draw its own judgments about these developments, juxtaposing the evident capability build-up with a deeper understanding of China's overall approach to nuclear weapons and its expressed threat perceptions.

This paper argues for a more holistic assessment of the developments in China and against alarmist, knee-jerk responses directed solely at the immediate nuclear build-up. It calls attention to the basic tenets of nuclear deterrence and recommends fortifying India's deterrent strategy with adequate, calmly considered capability build-up, besides a clear signalling of resolve. Divided into four sections, the paper first explores the possible rationale for the Chinese silo construction. The second and third sections examine the American and

4. Hans M Kristensen and Matt Korda, "China's Nuclear Missile Silo Expansion: From Minimum Deterrence to Medium Deterrence", *Bulletin of Atomic Scientists*, September 1, 2021. Also see Kristensen, "China's Expanding Missile Training Area: More Silos, Tunnels and Support Facilities", at <https://fas.org/blogs/security/2021/02/plarf-jilantai-expansion/>. Accessed on September 3, 2021.

Chinese responses to these discoveries. The paper finally concludes with a considered analysis of these developments from an Indian perspective.

POSSIBLE RATIONALES FOR CHINA'S NEW SILO CONSTRUCTIONS

The term 'minimum' has long been associated with the Chinese nuclear strategy. From the time that Premier Mao had expressed faith in a small nuclear arsenal as being sufficient for deterrence, China's warhead numbers have always been assumed to be low. For many years, it was guesstimated that China maintained a stockpile of around 200-250 nuclear warheads. Of course, the annual US Department of Defence reports kept projecting a large-scale expansion of the arsenal. But, it never did happen, at least, not between 2000 and 2020. Rather, the evident focus of China's nuclear modernisation during this period was seen to centre around enhancing the reliability, ranges, accuracy, penetrability and survivability of its delivery systems, particularly the missiles. It was hardly surprising, therefore, when in 2016, the United States Defence Intelligence Agency (DIA) described China's missile forces as 'the world's largest and most comprehensive.'⁵ In 2019, then DIA director Lt Gen. Robert Ashley stated that in 2018 'China launched more ballistic missiles for testing and training than the rest of the world combined.'⁶

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5. Lt Gen. Vincent R. Stewart, "Statement for the Record: Worldwide Threat Assessment", Armed Services Committee, United States Senate, February 9, 2016, at <https://www.dia.mil/News/Speeches-and-Testimonies/Article-View/article/653278/statement-for-the-record-worldwide-threat-assessment/>.

6. Lt Gen. Robert P. Ashley, Jr., "Russian and Chinese Nuclear Modernization Trends", US Defense Intelligence Agency, May 29, 2019, at <https://www.dia.mil/News/Speeches-and-Testimonies/Article-View/Article/1859890/russian-and-chinese-nuclear-modernization-trends/>.

early 2000s, China was reported to have as few as 40 ICBMs.⁷ Twenty years down the line, the 2020 DoD report highlighted an increase in such missile launchers from roughly 60 in 2010 to 100 in 2020.⁸ The 2021 edition of *The Military Balance* places the number of ICBM launchers at a precise 104.⁹ Of these, while some are expected to be for the silo-based liquid-fuelled DF-5 ICBMs, many more over the last decade, are reported to be for the more modern DF-41, solid-fuelled, mobile ICBM, capable of carrying multiple warheads.

With the advent of MIRVed missiles capable of carrying 3-10 nuclear warheads, China's nuclear warheads stockpile was expected to grow. But, as is becoming evident, the country is also engaged in construction of hundreds of silos. Given that Beijing maintains a high level of opacity on nuclear numbers and discloses only those aspects of the nuclear capability that it *wants* to be seen, it becomes important to discern the message being communicated by allowing these sites to be sighted. Is it that the silos actually house a network of tunnels that make use of mobility of missiles in underground structures? Many conjectures have been made on the possible rationale for these silos. The following paragraphs examine five possible reasons.

A first likely explanation has been attributed to what American analysts refer to as the shell game. It involves building more silos than missiles as a deception strategy. The idea behind this is to complicate the aggressor's targeting options by forcing him to waste his warheads on silos that may or may not contain any missiles. The United States had adopted such a strategy with its Minuteman (MX) missiles in the 1970s. According to Jeffrey Lewis, an American nuclear scholar, the US had built 23 silos for every one MX missile. It randomly shuttled them around, thereby forcing the Soviets to believe that the odds of their being able to plan a disarming strike were low.

7. Estimates are available in publications such as the International Institute for Strategic Studies' (IISS) *The Military Balance*, the Stockholm International Peace Research Institute's (SIPRI) *SIPRI Yearbook*, the Nuclear Notebook of the *Bulletin of Atomic Scientists*, and periodic US DoD reports.
8. US Office of the Secretary of Defense, "Military and Security Developments Involving the People's Republic of China 2010", Annual Report to Congress, p. 66, at https://archive.defense.gov/pubs/pdfs/2010_CMPR_Final.pdf; US Office of the Secretary of Defense, "Military and Security Developments Involving the People's Republic of China 2020", p. 59.
9. See "Chapter Six: Asia", in *The Military Balance 2021* (London: Routledge for the International Institute for Strategic Studies, 2021), p. 249.

China could be playing a similar game—letting the silos be seen and appear to be available as targets, but using them as decoys, since the adversary would never know whether it was hitting real missiles or just wasting its own arsenal on empty pits. According to nuclear experts, destroying each silo would require not only hitting them individually, but also striking them with at least two missiles to assure its destruction.

China has traditionally adopted secrecy and a tendency to confuse the enemy as a means to enhance its deterrence. The driver for the silos could, therefore, be deception and ambiguity, to signal to the US that it would never be able to carry out a disarming first strike against China. Interestingly, China may be applying the principles of Wei Ch'I, a popular Chinese game that relies on deception, to its nuclear posture too. For instance, one of the popular strategies employed in the game is "beat the grass to startle the snakes." This suggests using a trick or ruse to evaluate enemy's reactions and create confusion in his mind. Similarly, "trouble the water to catch the fish" is another tactic that amounts to doing something unexpected to make the enemy doubt his own thinking. A third one, "create something from nothing", involves sending repeated false signals to create an expectation in the enemy, and then changing course to deceive him. Wei Ch'I believes in maintaining continuous ambiguity to confuse the opponent to the point of paralysis. Taking inspiration from such principles, China could be playing Wei Ch'I with the US, a "game [that] revolves around answering the questions of how to create strategic leverages, how to keep things in a state of perpetual haze and then to achieve multiple ends and interests."¹⁰

A second reason for China's decision to build the silos could be US' abandonment of arms control arrangements such as the INF treaty, which constrained its capability to build and field missiles with a range of 500-5,500 km range. While the US officially pegged its decision of INF withdrawal on alleged Russian violations of the agreement, there is no doubt that China's unrestrained development and deployment of missiles in such ranges was perceived to disadvantage the US, especially as the threat perception from

10. For more on this game see Brig Sanjeev Chauhan, *China's Strategic Posture* (New Delhi: Pentagon Press, 2019), pp 68-69.

China grew over the last decade. Meanwhile, for China, once the US had liberated itself from the treaty in 2017, it began to fear that Washington would quickly build and deploy missiles in these ranges closer to China. Given China's extreme sensitivity to a 'Taiwan contingency', it could have felt the need to enhance its deterrence vis-à-vis Washington by increasing the number of ICBMs. The silos under construction are believed to be for housing more DF-41s so as to signal that China has the ability to hold large parts of the US mainland to nuclear ransom, thereby deterring any interference in a situation involving Taiwan.

A possible third reason could be the advantage that silos enable the pre-positioning of missiles at a higher state of readiness by allowing the targeting coordinates to be pre-fed. So, while China may or may not transition into launch on warning or launch under attack postures, it is still able to signal greater speed for retaliation. Solid-fuelled, silo-based missiles could help the PLARF to better master operational procedures while also allowing for greater safety and security through underground movement rather than overground movement.

Fourthly, all the aforementioned considerations effectively add up to bolstering the survivability of China's arsenal. A small nuclear arsenal depends on deception and dispersal to signal that no first strike can make the first user avert nuclear retaliation. Mutual vulnerability is the anchor for nuclear deterrence. China seeks this mutuality with the US—the assurance that both are able to hurt each other so that deterrence can function. But when the US ballistic missile defence (BMD) deployments, and its focus on conventional global prompt strike (CGPS) and development of conventional hypersonic missiles, or deployment of SSBNs in the Pacific that hold the potential to destroy Chinese nuclear assets began to erode China's confidence in its ability to cause unacceptable damage after taking a first strike, it sought measures to further increase the survivability of its retaliatory capability. Besides building a credible triad, China could also be opting for dispersing its nuclear warheads on mobile and silo-based ICBMs, besides the air and sea legs of the triad, as a way to ensure

that its nuclear assets are better placed for surviving any potential first strike, and thus able to deter more effectively.

Lastly, the nuclear expansion can also be seen in the context of China's aspiration for great power status. In this context, Beijing appears to be wanting to 'beat' the US on every parameter. Its nuclear stockpile has seemingly been identified for this purpose besides its focus on technological superiority. As President Xi Jinping leads his country to fulfil his 'China dream', he seeks national renewal as also a rising

international influence based on 'mutual respect' and 'fair treatment'. Some scholars explain this as China "seeking global military dominance, not 'parity' with the West."¹¹ On the more specific issue of nuclear deterrence, in his address to the Party Congress, Xi Jinping identified three duties for the newly reorganised PLA Rocket Force (PLARF), which has also been elevated to the position of the fourth arm of the military alongside the army, navy and the air force. He exhorted it to act as the "core strength of China's strategic deterrence, the strategic support for the country's status as a major power, and an important cornerstone safeguarding national security."¹² With this Xi appears to have reinforced the centrality of nuclear weapons to China's national security and international status.

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THE US' ASSESSMENT OF THE SITUATION

American concerns around China's nuclear developments have been variously expressed. Ned Price, the US State Department spokesperson, described it as

11. William Schneider Jr., "China Sees its Nuclear Arsenal as More than a Deterrent", *Wall Street Journal*, September 7, 2021.

12. Xi Jinping, "Secure a Decisive Victory in Building a Moderately Prosperous Society in All Respects and Strive for the Great Success of Socialism with Chinese Characteristics for a New Era", Speech delivered at the 19th Party Congress, October 2018.

'concerning' because it raised questions on China's intent.¹³ The American concern arises from the suspicion that "the PRC's nuclear arsenal will grow more quickly and to a higher level than perhaps previously anticipated" and that this would be potentially destabilising.

Adm Charles Richard, Commander of US STRATCOM, in a speech to the space and missile symposium on August 23, 2021, described the information on China's construction of silos as "breath-taking growth" that, he feared, would make its posture and strategy more "coercive".¹⁴ As the person responsible for handling deterrence breakdown, he drew attention to the unprecedented "three-party dynamics" that had emerged with Russia and China becoming near peers. He expressed concern about the limitations imposed by New START on the number of missiles that USA can deploy to handle both the threats.

Adm Richard, therefore, urged his administration to undertake "threat-informed decision making" and to adopt a strategy that would be "resistant to adversarial coercion". He suggested that "China's strategic breakout" should be factored into the ongoing preparation of the US National Defence Strategy, Nuclear Posture Review and Missile Defence Review. Recommending a virtually no-holds barred approach, he pleaded Congressional support for the "Next-Generation interceptor and the due-outs from the 2019 Missile Defence Review ... research and development efforts on the hypersonic glide interceptor, high energy laser, and other directed energy technology complement the existing Ground-Based Interceptor capabilities to counter missile threats."¹⁵

The US bottom line, therefore, as summed up by Adm Richard seemed to be, "it doesn't matter why China is and continues to grow.... What matters is that they are building the capability to execute any plausible

13. David Brunnstrom and Daphne Psaledakis, "US Calls Build-up of China's Nuclear Arsenal 'Concerning'", *Reuters*, July 2, 2021, at <https://www.reuters.com/world/china/us-says-chinas-nuclear-buildup-concerning-2021-07-01/>. Accessed on August 26, 2021.

14. Speech by Adm. Charles Richard, commander of USSTRATCOM at <https://www.stratcom.mil/Media/Speeches/Article/2742875/space-and-missile-defense-symposium/>, August 23, 2021.

15. *Ibid.*

nuclear employment strategy ...” Is this, however, the Chinese goal? Or, is the US traditional approach of projecting deterrence through war-fighting being mirror-imaged upon the Chinese as well? Or, has Beijing been influenced by US nuclear thinking and is adopting similar postures?

CHINESE VOICES AND EXPLANATIONS

There has been no response from the officialdom in China to the reported discoveries and speculation about the missile silos. This is not unusual given that China has traditionally remained quiet on its nuclear capabilities and posture except for the few paragraphs that outline the broad doctrinal contours in the White Papers on National Defence that have been regularly released every two years since 1998. In the absence of any official statements on the what the silos mean for China’s future nuclear posture, one can only rely on some opinions or editorials of Chinese origin to gauge the thinking within the country.

Many Chinese nuclear analysts have long drawn a connection between China’s rising threat perceptions and US missile defence, nuclear/conventional counterforce capabilities, etc. These are perceived by China to erode its nuclear deterrence premised on small nuclear numbers, thus triggering a need to increase its nuclear numbers and the use of measures that signal greater survivability for nuclear deterrence.

While one Chinese scholar, Dr Tong Zhao, acknowledges that increased threat assessments are driving China in this direction, he attributes d the silos to “China’s idea to keep the enemies guessing.”¹⁶ This, he opined, would also “bolster China’s image as a much stronger nuclear power than before. Whether China will actually fill each silo with an ICBM is a different matter

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16. Tweet of Tong Zhao, at <https://twitter.com/zhaot2005/status/1410496411204943872>, July 1, 2021.

..." But, as he suggests, the "bigger arsenal would make the country's rivals *respect* China and exercise more self-restraint when dealing with Beijing."¹⁷ Therefore, as Zhao argues, it is a case of security and prestige that pushes China in this direction.

Meanwhile, another Chinese scholar, Dr Wu Riqiang has attributed a more operational motivation for the silos. He opined in a tweet that "the silos could be a precursor of launch on warning." This conjecture emerges from the apparent higher focus on keeping the nuclear forces in a more operationally ready state as was also indicated in the 2019 White Paper on National Defence.¹⁸ It is also pertinent to note that PLARF has been training for honing its operational chain of command in preparation for making critical decisions on the real-time battlefield. Examples such as the conduct in March 2021, of a six-day competition involving PLARF missile commanders in a competition called Jianfeng 2021 at Rocket Force Command College, Wuhan, are illustrative of this. This competition is organised by the Director of the Training Bureau of Rocket Forces Staff Headquarters and "places focus on solving problems, improving war strategy and strategic thinking capabilities, and deepening operational design and tactical innovation. Experts from various theatres and China's NDU were brought to challenge the commanders."¹⁹

It may also be recalled that Gregory Kulacki, a China analyst at the Union of Concerned Scientists in USA, cited the 2013 updated edition of *The Science of Military Strategy*, a standard Chinese military text on strategy to suggest that China's nuclear forces could move towards a "launch on warning" posture: "under conditions confirming the enemy has launched nuclear missiles against us, before the enemy nuclear warheads have reached their targets and effectively exploded, before they have caused us actual nuclear

17. Ibid. Emphasis added.

18. The full official English translation of the 2019 Chinese Defense White Paper, *China's National Defense in a New Era*, at <http://www.xinhuanet.com/english/download/whitepaperonnationaldefenseinnewera.doc>.

19. Josh Baughman, "Assessing PLARF Missile Brigade Commander Competition – Jiangfeng 2021", China Aerospace Studies Institute, Air University, August 4, 2021. Accessed on October 6, 2021.

damage, quickly launch a nuclear missile retaliatory strike.”²⁰ Taking the argument further, he also cites some

“newly translated Chinese sources, [where] discussions of putting missiles on high alert appear to stem from increasing Chinese military concerns about retaining a credible nuclear retaliatory capability in the face of accurate U.S. nuclear weapons, the development of high-precision conventional weapons, and missile defenses. In addition, U.S. unwillingness to acknowledge mutual vulnerability in bilateral nuclear talks with China creates the impression that the United States is still seeking to render itself invulnerable to a Chinese retaliatory strike.”²¹

Interestingly, in contrast to the views of the scholars, some Chinese military analysts have dismissed such speculations of moving to LOW posture as baseless. Claiming silos to be an obsolete technology, a former PLA official, for instance, said “China has already used mobile launchers and discarded these fixed silos, which are time-consuming, labour-intensive, costly and vulnerable to be attacked and destroyed.”²² Rather than building silos, he recommends that China should be prioritising sea-based nuclear power.

Hu Xijin, the editor in chief of *Global Times*, makes a similar point. He argues that with the DF-41 being a solid-fuelled, road-mobile ICBM, “its biggest advantages is its mobility and vitality. There is no point to put it inside a silo.”²³ According to him, the claims by US think tanks have a sinister “aim to put pressure on China ... to force China to issue a statement regarding its nuclear plan and squeeze the room for China’s nuclear development through public opinion pressure.” It is to mount the pressure of “international morality” to force China to exercise stricter self-discipline.

20. Greogory Kulacki, “China’s Military Calls for Putting its Nuclear Forces on Alert”, *Report of Union of Concerned Scientists*, January 2016, p. 1, at <https://www.ucsusa.org/sites/default/files/attach/2016/02/China-Hair-Trigger-full-report.pdf>.

21. Ibid.

22. Liu Zhen and Kristin Huang, “Is China Building a Vast Network of Nuclear Missile Silos?”, *South China Morning Post*, July 2, 2021.

23. “China’s Nuclear Deterrence Build-up Cannot be Tied Down by the US: Global Times Editorial”, *Global Times*, July 2, 2021.

His recommendation to his government is to “neither confirm nor deny such ‘revelation’ and let the Western media imagine it. This is what nuclear deterrent means.”

Indeed, enhancement of its deterrence in view of growing American threats is surely one reason for the silos. The *Global Times* editorial exposes such thinking when it writes, “Once a military confrontation between China and the US over the Taiwan question breaks out, if China has enough nuclear capacity to deter the US, that will serve as the foundation of China’s national will.” Such a position is not surprising given that the US has been signalling a possibility of nuclear war-fighting. In response, China is adding to the complications by multiplying the targets. This is meant to make pre-emptive, first strikes much harder, since in order to reduce chances and intensity of retaliation, the US would have to target the silos without knowing whether they were empty or populated, as well as detect and hit the mobile launchers too. By doing so, China is signalling the military inefficacy of nuclear attacks, or even conventional attacks on its nuclear assets, because of the deception that has been woven into its capability. The intention is to strengthen China’s deterrence by building a credible nuclear second-strike capability “to curb the US strategic impulse.”

Interestingly, in Chinese writings the nuclear expansion is more often associated with a possibility of crisis over Taiwan. In fact, as the preceding editorial stated tellingly, “Once a military confrontation between China and the US over the Taiwan question breaks out ...”, the use of the word “once”, rather than “if”, indicates an inevitability of such a situation coming to pass. Therefore, China is counselled by a compatriot to remain “sober and firm about what it should do.”

CHINA’S DEVELOPMENTS FROM INDIA’S PERSPECTIVE

The nuclear modernisation underway in China has long been monitored by India. Though the pace of development and scale of the recent discoveries are certainly surprising, they largely seem to fit into a pattern that has been evident for some time. India has been observing the continued development and deployment of road-mobile ICBM capability, solid-fuelled ICBM silos, H-6N

nuclear-capable aircraft, and second-generation Jin class nuclear submarines equipped with longer range and better accuracy JL-3 SLBMs. In fact, for India, the DF-26 medium range missiles are a source of greater concern, more than the silos that are being suspected for ICBMs. Their range, precision, and hot swap strongly suggest theatre nuclear warfighting capability. This dual use delivery system is known to have been operationalised over the last two decades, irrespective of how Western analysts choose to defined this capability as China's "minimum deterrence" or "medium deterrence".

None of these Chinese developments is triggered by a threat perception of India; not even despite the ongoing China-India military stand-off at the line of actual control. For Beijing, the US is its primary threat. But, India becomes the affected party. However, at least until now, India has steadily gone on operationalising its own nuclear force structure based on a clear doctrine and unaffected by the adversary's capability trajectory. Two things have made this possible. One, a basic understanding of nuclear weapons as best suited for deterrence by punishment. And that imposing punishment with nuclear weapons is fairly easy given that they cause damage that cannot be constrained in space and time. Hence, there has been no hurry to add to the warhead stockpile. India believes that even small numbers, targeted wisely, can suffice to cause unacceptable damage.

The second point has been a quiet confidence in mutual vulnerability arising from the significant progress that has been made towards building robust and survivable second-strike forces. Some of India's capabilities are yet to be completely deployed; nevertheless, enough progress has evidently been made to ensure that the adversary cannot afford to take a chance that its nuclear attack on India would go unanswered. The ability to signal certainty of retaliation is then at the heart of credible deterrence.

India is now confronted with many questions. Is China becoming a bigger nuclear threat than what it was? How should New Delhi respond to these developments—with an accelerated response of its own? With changes in force structure and/or force posture? How should we spend our limited, finite resources to ensure deterrence? Which capabilities should

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be prioritised? Should India also build more silos or depend on mobility of missiles? After all, if mobile systems offer the advantage of concealment and dispersal, they become extremely vulnerable if and when found; in contrast, silos are more visible, but not that easy to destroy besides offering the possibility of deception under the ground.

In crafting its own response to the seemingly overawing Chinese developments, India must not forget the context and nature of nuclear deterrence. Once that is maintained, it would automatically address the sense of panic or alarm, since irrespective of numbers available with the adversary, it is one's own capability to threaten nuclear retaliation to cause unacceptable damage that really matters. Therefore, one thing is clear that India's focus should not be on obtaining numerical parity on nuclear warheads, but on technologies that enable assured retaliation through robustness of second strike.

The fact that China has more nuclear warheads than India should be no reason for angst in New Delhi. The number of nuclear weapons matter when countries believe that they can fight a nuclear war of attrition against the other side to prevent it from achieving its military objective. But given the nature of the nuclear weapon, which is a weapon of mass destruction, a bean-counting approach to match the adversary's arsenal weapon for weapon is completely unnecessary and even downright foolish. The determination of numbers has to be based on one's own sense of what would be necessary to cause the kind of damage that the adversary would not want to risk at any cost, and how much faith one has in one's own reliability and survivability of the arsenal. If every warhead is expected to perform as conceived, and if the dispersal and deception has been so planned as to ensure survivability, the warhead numbers can remain at lower level. Therefore, estimation of

one's own number requirements can be relatively decoupled from the numbers of the adversary. What would ultimately matter is the ability to signal punishment. However, if an adversary's capability, such as through deployment of missile defence, interferes with that, then a recalibration of numbers may become necessary. This is what China appears to be doing vis-à-vis US. For India, no such threat yet exists, though developments of BMD will have to be closely monitored across both sides of the border.

In any case, increase in nuclear warhead numbers can never hope to give absolute security to a state. US has the biggest nuclear arsenal in the world and yet has faced defeats in all its military engagements. Neither has Russia been able to force its will on others only on the basis of its nuclear capability. These numbers have to be intelligently built with a clear grasp of their role and with an even clearer understanding of what they cannot do, and for which other types of more practical instruments must be ensured in the country's security quiver.

China's reasons for undertaking such an expansion, and upgradation, of its nuclear forces range from its sense of insecurity towards the US to a desire to achieve great power status by 'beating' the existing great power. It is also flush with money and has invested lavishly in raising its technological capability. None of this holds true for India. It must choose its defence expenses wisely.

At the same time, India should not hesitate to look for and exploit possibilities of diplomatic conversations, especially those that highlight the

Given India's threat perceptions that include the probability of conventional war with both its nuclear-armed adversaries, New Delhi must maintain a sharp focus on building conventional military capability, irrespective of the Chinese silos. The nature of nuclear weapons, as instruments of mass destruction, significantly limits the contingencies in which these can be credibly used. Hence, overspending on a capability of limited utility will not make sense.

dangers of deterrence breakdown. While such engagements at the bilateral level with China look difficult at this juncture, India should encourage the US to engage with China on arms control and also search for multilateral forums that seek to reduce nuclear risks for all nations. Bonnie Jenkins, US Undersecretary of State, recently expressed the hope that China will come to see that arms control is in its security interests. "Arms control is not a trap designed to weaken China's defenses, but a mechanism to reduce risk and the chance of unnecessary arms races ... we will apply and tailor the lessons we've learned in the U.S.-Russia arms control process when possible to U.S.-PRC discussions."²⁴ It would be in India's interest to nudge the US and China along this route.

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24. Bonnie Jenkins, "Nuclear Arms Control: A New Era", Remarks at NATO Conference on WMD Arms Control, Disarmament and Non-proliferation, Copenhagen, September 6, 2021, at <https://www.state.gov/under-secretary-bonnie-jenkins-remarks-nuclear-arms-control-a-new-era/>.