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by

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Preface

The nuclear landscape that India confronts remains uniquely complex and demanding. Located between two nuclear-armed neighbours with whom it shares a complex and tangled territorial dispute and operating in an era of renewed global nuclear salience, India has had to craft a deterrent strategy that is both credible and responsible.

This timely paper, 'Nuclear Challenges to India's Security and its Deterrent Strategy' by Dr Manpreet Sethi offers a lucid, comprehensive and forward-looking examination of these challenges. It is a valuable contribution to both strategic thinking and public policy discourse in India.

The monograph's form is as commendable as its content. Organised around three distinct but interlinked 'baskets' of threats: Pakistan's strategy of nuclear brinkmanship, China's ongoing nuclear modernisation and the global re-emergence of warfighting concepts such as limited nuclear use, the paper provides a systematic and elegant framework for analysis.

It draws upon relevant history, doctrinal developments, recent crises (including the 2025 Pahalgam attack and *Operation Sindoor*) and classical strategic theory, most notably Thomas Schelling's insights on brinkmanship. The writing is precise, balanced and policy-relevant, avoiding both alarmism and complacency.

The 'nuclear chain' metaphor effectively captures how developments at the US–China level cascade into India's security environment. A particularly insightful section of the paper highlights how Pakistan has

weaponised its nuclear capability to advance its terrorism agenda. By projecting a low nuclear threshold and full-spectrum deterrence, Pakistan seeks to shield its sponsorship of cross-border terrorism, using the threat of rapid escalation to deter Indian conventional responses.

This dangerous strategy, a nuclear-armed state actively employing terrorism as an instrument of state policy against another nuclear power, has no parallel in the larger global strategic framework and remains a persistent source of crisis instability in South Asia.

At the heart of the paper lies a persuasive validation of the 'India way' in nuclear matters. Since 1998, India has consciously pursued minimum credible deterrence based on a NFU (No First Use) posture and the promise of massive retaliation to any nuclear first use. Delhi has abjured numerical equivalence, tactical nuclear warfighting doctrines and destabilising postures. This approach is not born of weakness but of objective strategic restraint and reflection. It has successfully deterred nuclear coercion, kept the nuclear threshold relatively high through conventional modernisation and allowed India to focus resources on economic growth and enhancing comprehensive national power.

The paper convincingly demonstrates that this restrained path remains valid and effective nearly three decades after the Pokhran-II nuclear weapons tests conducted by India in 1998. In an environment marked by Pakistan's nuclear-backed terrorism, China's expanding arsenal, and loosening global norms on limited nuclear war, India's emphasis on punishment over denial, credibility through survivability rather than superiority, and responsible behaviour offers a model of stability. It reinforces the nuclear taboo rather than eroding it.

As the author argues, nuclear weapons are here to stay for the foreseeable future, but they must be

handled with restraint and responsibility. The world cannot afford another Hiroshima or a Chernobyl or Fukushima event.

This essay not only diagnoses the challenges with clarity but also reaffirms that India's distinctive nuclear philosophy continues to serve its security interests well while setting a responsible example on the global stage. It deserves wide readership among policymakers, scholars, and strategic practitioners. A Hindi translation would enable wider dissemination about a critical issue—the abiding nuclear challenge.

I would also like to place on record Dr Manpreet Sethi's substantive contribution to the nuclear discourse in India and abroad, and thank her for being a valuable member of the IIC Sectoral Policy Group on Security as well as authoring this essay.

C. UDAY BHASKAR





NUCLEAR CHALLENGES TO INDIA'S SECURITY AND ITS DETERRENT STRATEGY

For the past few years, the United States (US) has been describing its nuclear threat environment as a two-front threat. The US expects that both Russia and China will be credible near peers by 2030. Hence, its national security documents have been professing the need for building the necessary capabilities to cater for this new threat scenario. Indeed, the emerging geopolitical, ideological and military competition that the US is engaged in with Russia and China is a challenging moment in its history.

A two-front nuclear threat, however, has been India's security reality since the 1980s. China tested its nuclear weapons in 1964 and steadily built a modest arsenal based on an understanding that nuclear weapons were essentially to deter by the threat of punishment. In the 1970s, China and Pakistan had started cooperating on nuclear weapons and Chinese help to the Pakistani nuclear weapons programme came in the form of nuclear material, technology and even the conduct of a nuclear test at Lop Nor. As a result of this nexus, Pakistan's A. Q. Khan was able to brag about the nuclear weapons capability of his country in 1987 (Chari, 2013). From then on, India has lived with a two-front nuclear threat.

With both of these nuclear-armed neighbours, India shares not just contested borders, but also territorial disputes involving tens of thousands of kilometres. Overtly nuclear since 1998, the three countries have enunciated different nuclear doctrines and are building their capabilities to meet 'their' vision of credible deterrence. More significantly, for China, its relationship with Pakistan allows the latter to be used as a proxy even as Pakistan has built its own set of proxies in the form of terrorist organisations that help it implement its strategy of bleeding India through a thousand cuts. India sits between Pakistan and China. Its national security faces a threat from either side owing to their developing capabilities, deterrent strategies and possible doctrinal changes.

Therefore, the nuclear landscape in Southern Asia where three nuclear-armed states are geographically proximate is rather unique and challenging. In fact, the region also suffers from the shadow of a fourth nation, the US. Its nuclear relationship with China results in another set of threat perceptions and capability build-up. Therefore, the nuclear conundrum in Southern Asia can best be depicted as a nuclear chain in which the impact of developments of the dyad between the major nuclear weapons powers US and China filters down into India–China and India–Pakistan dyads.

Meanwhile, at the global level, there is a growing salience of nuclear weapons, more tolerance for strategies of brinkmanship and growing acceptance of the idea of limited nuclear war. This paper undertakes an overview of the nuclear challenges to Indian security. These can be placed in three distinct baskets for the purpose of systematic examination—Pakistan's nuclear strategy poses the risk of crisis instability for India; China's nuclear modernisation poses the risk of sucking India into an arms race; and the global developments pose a risk

of popularising the idea of deterrence by denial over punishment, with all its concomitant arsenal and doctrinal changes. The following sections unpack the three threats in some detail.

THREAT FROM NUCLEAR PAKISTAN

Pakistan's nuclear capability is solely focused on deterring India.[1] But, the primary role of its nuclear weapons is not to deter the *nuclear weapons* of India, but to prevent the possibility of a conventional conflict with the superior Indian military. The threat of a conventional engagement with India haunts Pakistan because of its continued pursuit of terrorism, which obviously raises the possibility of an Indian riposte. In order to minimise the chance of such a response from India, Pakistan holds up the threat of escalating the conflict to the nuclear level. The risk of slipping into a nuclear war is meant to inject caution into Indian action, while simultaneously allowing a free hand to Pakistan to continue to exploit terrorism.

The utility of terror organisations as a low-cost tool to keep India unsettled had become clear to Pakistan soon after its independence. It is a fact that all wars that Pakistan has foisted on India have begun with the first steps being taken by such instruments—trained, equipped and launched—by the Pakistani state. The acquisition of nuclear weapons, flaunted by the father of Pakistan's atomic bomb—Abdul Qadeer Khan—in 1987, lent further strength to this strategy of using terrorism by making Pakistan free of the fear of a punitive response from India. In fact, this creates a unique situation of which there is no parallel in the world—that of a nuclear-armed state using terrorism against another nuclear-armed state and thereby actually indulging in instability or crisis-creation based on the assumption that the threat of nuclear escalation would protect the provocateur from punishment.

Ever since the Cuban missile crisis, the general understanding has been that nuclear-armed states avoid actions that could upset bilateral strategic stability. However, Pakistan has a rather unusual nuclear strategy because of its belief that terrorism can be an effective tool against India. If it has to continue using terrorism, then it must also cater for the possibility of an Indian military riposte. It does so by ratcheting up its reliance on the projection of a low nuclear threshold. Through the articulation of its doctrine and the nature of its capability build-up, Pakistan seeks to amplify fears of an immediate and inevitable escalation to the nuclear level in case of a conventional conflict. These fears are stoked as much to deter India, as to scare the international audience. Such a strategy has played out after every incidence of terrorism traced back to Pakistan.

To lend credence to its strategy, Islamabad is steadily moving towards the concept of full spectrum deterrence. It envisions the availability of a ready stockpile of nuclear warheads from the low-yield to high-yield varieties, as also a number of delivery systems of the very short-range to the longer ranges to be able to target all parts of India. In recent years, missile tests of new technologies such as multiple independently targetable re-entry vehicle (MIRV) missiles from sub-surface platforms, longer range cruise missiles, etc., have taken place. However, the real challenge from Pakistan is not so much its nuclear capability as its strategy of nuclear brinksmanship. It seeks to magnify risks of nuclear use by laying down tripwires to deter conventional conflict. The projection of tactical nuclear weapons (TNWs) and placement of nuclear missiles on surface vessels are all part of this approach of deliberately creating risks.

This is a strategy of nuclear brinksmanship to deter a conventional response by a superior military by projecting the risk of loss of control

over the situation. Thomas Schelling explained this as 'a threat that leaves something to chance'. In his words, 'If brinkmanship means anything, it means manipulating the shared risk of war. It means exploiting the danger that somebody may inadvertently go over the brink, dragging the other with him' (Schelling, 1996: 98–99). He graphically described this with the analogy of two cars coming towards an intersection from different directions. As one of the drivers accelerates his vehicle, he gives a signal to the other of his determination to cross first. This places the onus of the decision on the other side to either slow down to let the first pass, or to ignore the signal and carry on at the same speed even at the risk of a collision that could be equally harmful to either side. If the second driver slows down, the first has successfully managed to deter him by the threat of collision. Pakistan may be compared to the first driver who accelerates his speed (or indulges in provocative acts of sub-conventional conflict) and seeks to deter India from speeding (or launching a military response) by threatening the possibility of collision.

The Indian response, however, has evolved over time in trying to find answers to the challenge of Pakistan's nuclear strategy. The following section examines India's response options in the face of Pakistan's nuclear strategy.

India's Response Options

As explained earlier, Pakistan is playing a game of nuclear brinksmanship and is trying to ensure that India's response spectrum, especially in the military domain, is narrowed as much as possible. This, however, is a risky strategy since there can be no guarantee that India would play along as envisaged by Pakistan. Perhaps, India's lack of military response after *Operation Parakram* wound down in 2002 and thereafter until 2016, despite continued terrorism

during the period, emboldened Pakistan into believing that its strategy was succeeding.

During this decade and a half, India focussed more on defensive measures such as better intelligence, improved border fencing, interdiction and eco-diplomatic actions to name, shame and isolate Pakistan by shining the spotlight on its sponsorship of terrorism. Offensive military action was avoided. While Pakistan may have assumed this was for fear of escalation, India explained it as avoiding digression from economic growth. However, the predominant use of soft measures did lead to build up of frustration and anger within the country though they also helped create an international climate favourable to India and intolerant of Pakistan's support for terrorism. Simultaneously, advances in India's military instruments to enable calibrated precision attacks made the use of military options after the terrorist attacks in Uri[2] in 2016, Pulwama[3] in 2019 and Pahalgam[4] in 2025.

The three military strikes are significant not for the amount of damage or loss of lives that may have been caused in the case of each but for signalling a resolve to punish perpetrators of terrorism. The territorial and target envelope has expanded with every military action. Yet, strategic restraint stands out as a common feature of all operations from Kargil to *Operation Sindoor*. Kargil was the first instance where the two neighbours fought a war under the nuclear shadow. Tasked with the eviction of the Pakistani army that had illegally occupied Indian territory, the Indian Air Force (IAF) was constrained by the government to undertake air strikes without crossing the LOC. During *Operation Bandar* in 2019, the IAF was strictly mandated to not cause any collateral damage. In the case of *Operation Sindoor* too, the IAF operated 'under strict rules of engagement that prohibited initiating attacks on

Pakistani aircraft or pre-emptively suppressing air defence systems' (Ladwig, 2025). The clear order was that the strikes should be confined only to terrorist-linked infrastructure, even at the cost of operational risks. There are reports that some IAF aircraft were lost on the opening day of the operation owing to these constraining rules of engagement. However, the Indian attempt to maintain a distinction between terrorist and military targets to prevent escalation has been an important feature of the country's military action.

This distinction, however, may blur in the future. In his address to the nation on 12 May 2025, PM Narendra Modi said, 'We will not differentiate between the government sponsoring terrorism and the masterminds of terrorism.'[5] The future target list, then, could be less discrete and include military targets too. This is meant to slowly chip away at the credibility of the Pakistan military in the eyes of its own populace. By adopting this approach, India is suggesting that in a future crisis it would not bear the burden of restraint alone. There is a greater willingness to manipulate risk. Schelling's second driver seems to be signalling that it might not reduce speed as it races towards the intersection and the onus of stabilising the situation would be on the first driver too.

Yet another lesson that may be drawn from these episodes is that there is no need for India to change either its nuclear doctrine or nuclear capability trajectory in response to Pakistan's strategy of projecting the threat of use of tactical nuclear weapons. New Delhi must continue to maintain—as it always has—that nuclear weapons are not for war fighting, whether with small-yield weapons on the battlefield or with large bombs on cities. Their purpose is narrow and limited to safeguarding the country against nuclear coercion, blackmail or its

possible use. This strategy seeks to deter nuclear use by conveying *assured retaliation* in response to a first use, irrespective of its yield or choice of target.

For India, therefore, any use of the nuclear weapon would have strategic implications and would invoke a punitive response. The focus of the Indian nuclear arsenal must, therefore, continue to remain on ensuring credibility through survivability of reliable delivery systems to mount necessary retaliation. Effective nuclear signalling must dispel any doubt in the mind of the adversary that they could get away with any kind of a nuclear misadventure without having to suffer the consequences of retaliation of the kind that would inflict unacceptable costs on them.

THREAT FROM NUCLEAR CHINA

China demonstrated its nuclear weapons capability in October 1964. It has a three-and-a-half-decade lead over India on nuclear capability build-up. While its military modernisation, including in the nuclear dimension, remained slow until the 1980s, the pace quickly picked up thereafter. Over the last three decades, Chinese nuclear weapons and delivery capabilities have steadily undergone an upgradation enabled by the country's sustained economic growth and consequent ability to spend liberally on military modernisation. China's nuclear force may be small by Cold War standards, but it has not only numerically expanded rapidly in the last five years to move from 250 to 600 warheads but also become modern enough to be effectively used as a tool of deterrence to shape China's security environment to better safeguard its national interests and assist in its rise to great power status.

Of course, the US actions towards development and deployment of ballistic missile defence (BMD) along with its much-publicised strategy of conventional global prompt strike have had a role to play in shaping China's threat perceptions and

capability trajectory. China perceives both as a threat to its nuclear deterrence and has engaged in a rapid, but what appears to be, intelligent nuclear modernisation based on a careful assessment of US vulnerabilities. Given that it seeks to deter through the threat of its ability to cause 'unacceptable damage' while pledging no first use of own nuclear weapons, the focus of the Chinese efforts has been on ensuring survivability of missiles. It has placed greater emphasis on increasing the numbers, reliability, accuracy and mobility of its missiles. It has been engaged in building more solid-fuelled, rail and road mobile missiles. Further, realising the vulnerability of land-based missiles despite the best survivability measures, the spotlight has been on making its sea-based deterrence capability operational.

A Chinese Admiral, Liu Huaqing, had highlighted this emphasis in the 1990s when he stated,

> In the face of a large scale nuclear attack, only less than 10 per cent of the coastal launching silos will survive, whereas submarines armed with ballistic missiles can use the surface of the sea to protect and cover themselves, preserve the nuclear offensive force and play a deterrent and containment role.[6]

The sea leg of the Chinese nuclear triad rests on Julang 2 (JL-2), a second-generation submarine-launched ballistic missile (SLBM) of over 7,000 km range that would be deployed on indigenous Type 094 submarines. These Jin-class ship submersible ballistic nuclear (SSBNs) have reportedly been undertaking sea patrols since 2015.

Again, in order to counter the US BMD, China has also invested heavily in developing technical countermeasures such as the use of chaff, decoys,

balloons and stealth technologies. Even more significantly, China has worked on equipping its missiles with MIRVs.[7] China is known to have been miniaturising warheads to make them lighter and easier to deploy in multiple numbers ranging from 3–10 atop its delivery systems. Secondly, Beijing has also developed the capability to make the re-entry of its nuclear warhead manoeuvrable (MARV) missiles thereby making them difficult to intercept. A lot of the new technologies will be dependent on space-based capabilities and China is rapidly modernising these for both offensive and defensive operations. Beijing's demonstration of an anti-satellite (ASAT) capability in 2007 has since been supplemented by its development of a range of soft kill technologies including directed energy weapons and electronic attacks through sophisticated jamming technologies.[8]

It is apparent that China is certainly moving up to a higher level of strategic capability and credibility by showcasing the mobility, invulnerability and penetrability of its nuclear delivery systems. This capability enhancement and its concomitant impact on deterrence is primarily meant for the US. But it obviously has a downstream effect on its deterrent equation with India too. So, how should India view these developments of Chinese strategic modernisation and what responses should it focus on?

India's Response Options

China's nuclear modernisation raises the challenge for India to have to face a more assertive neighbour in the coming years. Certainly, with a general rise in its perception of its comprehensive national power (nuclear capability being one component of this), China gains in confidence to actively participate in international rule making or rule breaking. A Chinese official quoted in a 2019 article articulated, 'Being a great power means you get to do what you want, and

no one can say anything about it' (Mastro, 2019: 31). Beijing's strident position on not allowing India to be a member of the Nuclear Suppliers Group is one example of such behaviour. Its continued support for Pakistan's nuclear energy programme through unlimited grandfathering of nuclear power plants, even when this is in violation of the Nuclear Suppliers Group (NSG) guidelines (Phillip and Davenport, 2016) and its backing of Pakistan's brinksmanship behaviour are other such demonstrations.

In order to address the challenge posed by China's strategic modernisation, India needs to focus on its own capability building to communicate credible strength. Quite similar to the Chinese emphasis on building reliable and survivable nuclear delivery platforms, India will need to develop and deploy a number of land-based ballistic missiles, the Agni variants that are solid-fuelled, rail and road mobile, including the long-range, canisterised Agni V missiles.

India has also been focused on another urgent task of operationalisation of the sea-based leg of India's nuclear triad. The commissioning of two new indigenous SSBNs after *INS Arihant*, have enabled an operational, credible sea-based deterrence as SLBMs too have increased to longer ranges. Indian missiles have also been tested with increasingly sophisticated countermeasures to evade interception such as multiple re-entry vehicles (MRVs), which hit the same target with many bombs, and manoeuvrable re-entry vehicles (MARVs) that can drastically change trajectory to evade interception in the terminal stage and MIRVs to help buttress deterrence.

Basically, India has been developing a secure second-strike arsenal with mobile launchers, deployment beyond the reach of hostile delivery systems, dispersion of the arsenal on a triad and a robust Command, Control, Communication and Intelligence (C3I) systems. Effective surveillance and

early warning capabilities to acquire intelligence on the adversary's force posture are also necessary to minimise risks of a miscalculated or inadvertent strike, based on faulty intelligence or false alarms.

New Delhi should put its focus on building its own military strength (conventional and nuclear) and political influence, including through the use of its unique soft power appeal. While on the one hand, India must undertake conventional modernisation to raise the nuclear threshold, on the other, it needs to enhance the credibility of its own nuclear deterrence through a programme aimed at increasing the survivability of its nuclear forces. However, India does not need to match China's capability piece for piece.

At the same time, India must also look for opportunities to engage in political dialogue with China on nuclear issues. An understanding of each other's nuclear policies, capabilities and doctrines would reduce chances of misperception or miscalculation during a crisis. In their individually articulated but similar approaches to nuclear deterrence, both have several nuclear convergences. In their unilaterally and voluntarily declared 'No First Use' too, there is a good instrument of strategic stability. China and India should explore ways of cementing their nuclear understanding to avoid mutual risks that may arise from misperceptions. This could also set an example of responsible nuclear behaviour before others at a time when destabilising developments are peaking, as explained in the following section.

THREAT FROM RE-EMERGENCE OF OLD NUCLEAR WARFIGHTING CONCEPTS

A concept that has re-emerged in recent times is 'limited nuclear use for strategic effect' (Arms Control Association, 2018). This is premised on the development and use of so-called 'tactical nuclear weapons' (TNWs) as low yield nuclear weapons to be used on short-

range missiles against battlefield targets. During the Cold War, TNWs in the form of nuclear artillery shells, torpedoes, etc., were much in vogue. The US and USSR had deployed them in large numbers in the European theatre. However, it was eventually realised that no tactical use could take place without causing a strategic impact.

The idea of limited nuclear use remained out of mainstream nuclear discourse roughly from the end of the Cold War to about the mid-2010s. A return to the old thinking, however, began in the US from around 2014. An edited book published around that time made a case for reconsidering the concept in light of the changed US threat environment. 'Given its international commitments and the possibility of future regional conflicts with small nuclear armed powers, the United States needs to be prepared for the possibility that it may one day find itself in a limited nuclear war…' (Larsen, 2014: 3–20). In order to deter such eventualities, the US Nuclear Posture Review (NPR) 2018 announced,

> Expanding flexible US nuclear options now, to include low-yield options, is important for the preservation of credible deterrence against regional aggression. It will raise the nuclear threshold and help ensure that potential adversaries perceive no possible advantage in limited nuclear escalation, making nuclear employment less likely.[9]

US NPR's since then have continued to explore the idea of limited nuclear war in regional contingencies through a 'range of limited and graduated options, including a variety of delivery systems and explosive yields'.[10]

As a consequence of these developments, the perception that appears to be gaining ground is that

a limited nuclear war with low-yield weapons is a credible and feasible military strategy.[11] Such thinking tends to prioritise nuclear deterrence through the idea of nuclear war fighting in a manner to deny the adversary from achieving its objectives. So, the weapons are no longer projected as weapons of mass destruction best suited for deterrence by punishment, but as slightly more lethal conventional weapons available for military use. The next section sheds light on the wider implications of this perception, particularly in terms of posing nuclear challenges for India's security.

India's Response Options

Of particular preoccupation for India is the impact that ideas such as those of limited nuclear strikes could have on its own nuclear-armed adversaries. China has not yet announced any change in its nuclear doctrine, but debates on its doctrine and force posture abound (Johnson, 2017; Zhenqiang, 2018: 133; Kulacki, 2016: 1). In 2025, the US has also made allegations that China has been engaged in sub-critical nuclear testing that might be to fine tune low-yield weapons.

Meanwhile, Pakistan has been projecting the battlefield use of nuclear weapons, arguably to deter India's conventional might.[12] This trend appears to have given a fillip to Pakistan's strategy of deterring conventional conflict through the threat of use of TNWs, something that it started doing in earnest from 2011 onwards when it first tested its very short-range ballistic missile, Nasr. This development drew concern and disapproval from several international quarters (Joshi, 2013: 159–172; Smith, 2013; Krepon, 2012), particularly since it raised the risk of nuclear security and safety in a terrorist infested country. However, the recent embrace of such weapons by Russia and US seems to have provided a

more permissive environment for Pakistan to justify and persist with its idea of TNWs.

From the Indian perspective, however, this military appeal of limited nuclear war premised on a flexible and proportionate response is misplaced. There is no real answer to the question as to how limited a war can be once nuclear weapons come into play? How can a nation guarantee that its own 'limited' nuclear weapons use would fetch a similar response from the other side? What would be proportionate in a situation of nuclear use and who would determine what is proportionate, given that the effects of nuclear weapons cannot be constrained in time and space? Would a nation measure proportional damage on the basis of the number of people who vaporise in the first flash of light or the numbers that die gradually and painfully with the effects of radioactivity? Can it be business as usual after a 'limited nuclear exchange'?

The bizarre nature that such a conflict would acquire makes it doubly essential that the idea of limited nuclear use, which was quashed many decades ago, is not allowed to take root yet again. Tampering with the taboo against the use of nuclear weapons, irrespective of the yield of the weapon, could only end up opening more possibilities of use. Indeed, this is a slippery slope and best arrested through a collective commitment to constrict the role of nuclear weapons in national security strategies and certainly to eschew the idea that limited nuclear strikes could be more acceptable than larger nuclear strikes.

The idea of waging a war with nuclear weapons is exactly what the Indian nuclear doctrine wisely jettisoned by suggesting that the non-ordinariness of nuclear weapons demands an extraordinary response. In the face of emerging tendencies to popularise the idea of limited nuclear strikes, India

must not only stand steadfast on its understanding of nuclear deterrence as being best derived from the imposition of unacceptable punishment but also expose the folly and dangers of such misguided ideas.

CONCLUSION

In view of the varied and complex nuclear threats that India faces, its nuclear strategy must be able to find the right approach to stabilise the situation with Pakistan while avoiding getting into a messy and expensive arms race with China. The following points encapsulate the philosophy that India has adopted towards nuclear weapons and they also offer some recommendations for the future.

- Nuclear weapons are not on their way out. Nuclear deterrence is likely to remain an important tool to shape and contain conventional crises. The Russia–Ukraine conflict has only reinforced this belief, as have the military strikes on Iran. But the requirements of credible nuclear deterrence can be relatively modest. Overspending on this capability would entail compromising on other, more effective military capabilities. Such a tendency should be avoided.
- The credibility of nuclear deterrence is derived from the ability to retaliate in such a manner as to make the first use of nuclear weapons extremely costly in terms of the risks of further escalation and the damage inflicted. India's future trajectory of capability build-up must keep this as its guide to ensure that the country has the necessary wherewithal in terms of weapons, delivery systems and command and control structures to retaliate in such a manner. This will minimise the possibility of deterrence

breakdown, which is the primary purpose of India's nuclear weapons.

- India should not get into the numbers game with nuclear weapons and refrain from feeling compelled to match the arsenals of our adversaries, weapon for weapon. In any case, India has been slowly and steadily increasing its nuclear stockpile as per a plan based on minimum deterrence requirements that are sufficient for signalling credibility. That should continue to be the guiding factor, without any need for a panic-driven increase in response to the actions of others.
- The first use of nuclear weapons, irrespective of how they are defined, tactical or strategic, can only bring ruin. The way nuclear escalation might happen remains an uncharted territory and there can be no promised guarantees of any kind. Therefore, deterrence by the idea of retaliation, rather than first use, is more likely to keep the use of nuclear weapons at bay.
- Massive retaliation is a credible deterrent strategy. In fact, given the nature of the weapon, largescale destruction is likely to be the result of the use of even modest nuclear numbers.
- Some emerging technologies, especially those that enable better intelligence, surveillance, reconnaissance and precision targeting, would have implications for the survivability of nuclear arsenals. These will have to be carefully monitored and intelligently countered.
- Buttressing conventional deterrence capability is important to keep the nuclear threshold high.

- Improving bilateral and regional security relations must remain a constant effort. While strategic patience will be needed to resolve some of the historical and structural disputes between India–Pakistan and India–China, the creation of crisis management mechanisms must be given due attention.

Nuclear India has charted its own trajectory. This 'India way' has emerged from its understanding of the basic nature of nuclear weapons and the impact of their use. India consciously eschews a nuclear strategy that would lean towards signalling a capability to fight a war with nuclear weapons and hence requires multiple kinds, and more numbers, of nuclear warheads and delivery systems, besides the adoption of risky nuclear postures. A sense of restraint or moderation in capability build-up, as well as a sense of responsibility in behaviour, has, therefore, been a natural dimension of its deterrence.

While India has been an ardent champion of universal nuclear disarmament and continues to aspire for this goal, it realises how distant it is in the current circumstances. Till such time as this ideal can become a reality, it is imperative that nuclear weapons are held with restraint and responsibility. India has managed to do so now for nearly three decades. Certainly, India's voice carries the credibility of good behaviour and responsible practice as a nuclear-armed state and it can serve as an example for other countries that possess nuclear weapons.



Notes

1. A substantive portion of this section draws upon an earlier publication of the author. See Kumaraswamy (2022).

2. On 18 September 2016, four terrorists of Jaish-e-Muhammad entered an Army camp in Uri and killed 17 soldiers. 'Uri Terror Attack: 17 Soldiers Killed, 19 Injured in Strike on Army Camp', *Times of India*, 18 September 2016, https://timesofindia.indiatimes.com/india/Uri-terror-attack-Indian-Army-camp-attacked-in-Jammu-and-Kashmir-17-killed-19-injured/articleshow/54389451.cms (accessed on 7 August 2026).
3. A suicide attack on a 78-vehicle Central Reserve Police Force (CRPF) convoy took place on 14 February 2019. An SUV packed with 350 kg of explosive rammed into a bus carrying CRPF personnel. Jaish-e- Muhammad claimed responsibility for the attack. For more see *India Today*, 16 February 2019, https://www.indiatoday.in/india/story/pulwama-attack-2019-everything-about-jammu-and-kashmir-terror-attack-on-crpf-by-terrorist-adil-ahmed-dar-jaish-e-mohammad-1457530-2019-02-16 (accessed 7 August 2026).
4. The incident involved the brutal killing of 26 tourists who were targeted on the basis of religion by terrorists belonging to The Resistance Front (TRF) on 22 April 2025.
5. PM Address to the Nation, 12 May 2025. https://www.pib.gov.in/PressReleasePage.aspx?PRID=2128268 (accessed 7 August 2026).
6. As cited in You (1999: 96–97).
7. 'China Successfully Tests Multi-warhead Missiles', *Yomiuri Shimbun*, 08 Feb 2003.
8. For more on China's space capabilities, see Sethi (2016: 97–122).
9. Nuclear *Posture Review*, February 2018, p. 12, https://aiaa.org/wp-content/uploads/2024/12/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.pdf (accessed on 7 August 2026).
10. Ibid., p. 31.
11. For more on arguments in favour of this strategy, see Kroenig (2018).
12. ISPR Statement no. PR 94/2011- ISPR, https://www.ispr.gov.pk/press-release-detail.php?id=1721 (accessed on 7 August 2026).

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