

POLICY REPORT

India's Nuclear Deterrent: The More Things Change...



**S. RAJARATNAM SCHOOL
OF INTERNATIONAL STUDIES**
A Graduate School of Nanyang Technological University

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March 2014

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Executive summary

India's complex security environment requires a credible nuclear deterrence strategy. Over the years, three factors have produced a somewhat tentative and uncertain strategy. First, the management paradigm has been shaped by the vision of a world free of nuclear weapons and by the prominent role of the scientific enclave, which has marginalised the military. Second, Indian strategy has been circumscribed by a preference for existential deterrence, which again has kept the military out of decision-making and detracted from the credibility of India's nuclear doctrine and posture. And third, the civilian bureaucracy has resisted organisational reform and perpetuated the deficit in deterrence credibility. A series of changes are necessary in order to facilitate a more efficacious nuclear strategy.

Desirable changes include:

- Development of a strong naval leg of the nuclear triad with nuclear submarine-based missiles that have a striking range of 5,000-8,000 km;
- Consideration of the option to develop tactical/theatre nuclear weapons in order to achieve escalation dominance and retaliate against conventional force attacks;
- Integration of the military in India's national security decision-making process; and
- Shifting towards a more transparent nuclear posture that is both reassuring to the Indian public and more credible vis-à-vis adversaries.

India's nuclear deterrent exists in the midst of a unique and complex dynamic that comprises overlapping triangular rivalries. In one triangle, which includes China, India and Pakistan, the latter two are pitted in an intense strategic competition, with India striving to develop a nuclear triad that will deter China, and Pakistan engaging in a frenetic race to overcome India's conventional superiority and surpass its strategic capability.

In the other triangle, comprising the United States, China and Russia, as China boosts its comprehensive national power, the other two nations keep a wary eye on its growing capabilities in the nuclear, space and maritime domains. Apart from China, the other linkages that connect the two triangles are the growing Indo-U.S. cooperative relationship and the Sino-Pakistani nuclear nexus of long standing.

India, as a status quo power, has a vested interest in the maintenance of peace, stability and tranquillity on the sub-continent. Given the situation that has just been spelt out, in

the South Asia-China expanse, stable nuclear deterrence assumes crucial importance. Under such circumstances, India's declaration of 'no first use' (NFU) of nuclear weapons, implying that its arsenal of nuclear weaponry was a 'political instrument', not meant for war fighting, made eminent sense, in May 1998. However, while China loses no opportunity for sabre rattling over territorial and other issues, Pakistan's strategy envisages seamless transitions from terrorism to conventional war to nuclear first use.

Against this complex backdrop, as I embark upon an examination of India's nuclear deterrent and some important related issues, I begin by drawing attention briefly to three main factors that have influenced the birth and evolution of the deterrent. Starting with a review of its management paradigm, I touch upon the reason for India's tentative approach and, finally, highlight the civil-military tensions that have a bearing on the credibility of the deterrent. These factors will help to lend perspective and facilitate a better comprehension of the discussions that follow.

The drivers of India's deterrent

Indian nuclear weapons doctrine and posture are shaped by three main factors.

Evolution of a management paradigm

The most significant feature of India's 51-year long journey on the road to nuclear weaponisation is the fact that it has been underpinned by two mutually contradictory sub-texts. On one hand, a chimerical vision of a world free of nuclear weapons has acted as a distracting siren call for India's political leadership. At the same time, subtle but sustained pressure by India's scientific enclave has served to propel India's decision-makers at the highest level inexorably on the path to weaponisation.

Moral aversion to nuclear weapons has been a dominant theme in post-independence India, and the country's leadership has invariably supported the movement for universal disarmament. Former Prime Minister Rajiv Gandhi's 1988 'Action Plan for a Nuclear Free and Non-violent World Order' remains the centre piece of India's policy on nuclear disarmament and diplomats continue to pay lip service to it in international fora.

Constrained by this moral posture, as well as the nation's dire economic straits, India's post-independence leadership publically foreswore nuclear weapons. However, they found it difficult to resist the persistent urging of scientists like Dr. Homi Bhabha, India's pre-eminent nuclear physicist, and his successors. Janus-faced, they authorised a secret nuclear weapon programme, for which the groundwork had already been laid. Thus was created the management paradigm that India's political leadership has followed, since independence, in the strategic domain.

In this model, the task of charting the nation's path in the fields of nuclear and missile technology was entrusted entirely to the country's scientific enclave, consisting of the Department of Atomic Energy (DAE) and the Defence Research and Development Organisation (DRDO). It is on the exclusive advice of this enclave that India's political leadership has been taking critical decisions, with enormous financial implications, regarding the evolution and parameters of a nuclear deterrent and missile force. This has, inevitably, produced a downstream impact on policymaking.

Two significant features of this paradigm deserve notice: firstly, the deliberate omission

of any mechanism for independent oversight of the DAE's plans, or for evaluation of its claims. Secondly, the complete exclusion of the armed forces from all aspects of planning and structuring of strategic programmes. Leaving the user out of the loop has made it impossible to question overstated scientific claims or affix accountability for meeting time, cost and performance targets. Since this model appeared to work well for the DAE, the DRDO too decided to adopt it.

The uncertain trumpet

Post-1998, India's leadership has unambiguously enunciated its belief that nuclear weapons are political instruments rather than military tools. This belief is underpinned by the logic that the sole purpose of nuclear weapons is to deter war. From this eminently sound foundational assertion, many decision-makers have jumped to the facile but erroneous conclusion that numbers have no relevance and that a 'handful of weapons' should suffice for deterrence.

This thought process has led to two consequences. It has served to confirm, in the politician's mind, the notion that since nuclear weapons are not meant for war fighting, there is no need for the military to get involved with their evolution or management. It has also helped create, in the minds of Indian politicians, faith in what is best described as 'existential deterrence'. First articulated by McGeorge Bundy, the concept of 'existential deterrence' postulates that it is the 'assurance of reprisal' rather than its immediacy that deters a nuclear first strike. It provides the assurance that, as long as a country can assemble some nuclear warheads, this alone should serve as a credible deterrent, even if the riposte takes hours or days to materialise after the first strike.

For all its seductive appeal, existential deterrence is premised on some very demanding conditions. The main assumption is that although the warheads may be disassembled or dispersed, the other requirements – a targeting philosophy, rugged command and control structure and warheads/vectors in 'sufficient' numbers – are available. It also presumes that warheads can be safely assembled and transported under conditions of turmoil and that they would detonate accurately on target, generating the expected yields. All these conditions constitute a tall order and place a question mark on the efficacy of existential deterrence in the Indian environment.

However, since this concept appeared to offer the benefits of deterrence without paying the moral, political and economic price involved in maintaining a credible nuclear arsenal, it seems to have found resonance at the highest levels of India's political leadership. It is this subliminal belief that lies at the root of the tentativeness and diffidence that have marked India's nuclear deterrence and that has created the streak of damaging ambivalence clearly discernible in its policies as well as practices.

Civil-military tensions

India's unique policy of sequestering the military from national security decision-making and its inability to muster the resolve to undertake long overdue security reforms is a well-known debility. It not only invites incredulous comment internationally, but has also taken a toll on the credibility of India's nuclear deterrent.

Domestically, the national security system has been subjected to critical examination by government-appointed task forces as well as successive Parliamentary Committees, but most initiatives for national security reform have been stalled by forces of conservatism in the political establishment, actively abetted by civil servants of the Indian Administrative Service (IAS).

Near-Luddites in their resistance to change, India's bureaucrats have vitiated civil-military relations by steadfastly opposing every attempt at integration of the military with the Ministry of Defence (MoD) since they apprehend erosion of their own influence and authority. The resultant adherence to an archaic system of higher defence management has inflicted severe penalties on the national security edifice. A prime manifestation of this is India's persistence with the post of Chairman Chiefs of Staff Committee (COSC) instead of instituting a Chief of Defence Staff (CDS), as in all other major military and nuclear powers.

The Chairman COSC is a key functionary in the nuclear command chain and his role is set to gain in criticality with the imminent induction of missile-armed nuclear submarines (SSBNs) and inter-continental ballistic missiles (ICBMs) into the Strategic Forces Command (SFC). However, under existing rules this post is held for durations (which have varied from 30 days to 18 months) in rotation by serving Chiefs who discharge these onerous duties on a part-time basis. Given the gravity and magnitude of the responsibilities

of the position, especially in the context of the nuclear deterrent, the largely ornamental Chairman COSC needs to be urgently replaced by a full-time functionary. This can come about only through strong political intervention that overrules entrenched bureaucratic opposition.

Recent nuclear discourse

Compared to its articulate Pakistani counterpart, the Indian nuclear establishment is faceless and reticent. As far as public discourse is concerned, barring a handful of knowledgeable and perceptive Indian analysts, most of it is generally led by U.S. commentators. Therefore, a critique of India's idiosyncratic approach to the management of its nuclear forces by an Indian author came recently as a surprise and ruffled feathers in New Delhi. It serves as a good starting point for discussing divergent views relating to some salient nuclear weapons-related issues.

The skeptical view

In his 2012 book titled *Managing India's Nuclear Forces*, retired Vice Admiral Verghese Koithara criticises India's 'un-informed leadership' for having sought 'political and technological prestige' rather than deterrence in their long and unfocused nuclear weapon quest. It is this belief that has contributed to the 'casual attitude of Indian politicians' towards nuclear deterrence.

Koithara bluntly asserts that India's flawed and maladroit management of its nuclear forces has had an adverse impact on their 'operationalisation,' which he defines as encompassing 'the processes which ready the weapon systems fully...to perform their intended task in war.' He concludes that this has weakened deterrence, 'not just by the inability to conduct operations in a safe and reliable manner, but also by revealing a lack of seriousness of purpose.'

Koithara blames the 'barren relationship' between the political leadership and the armed forces on the latter's sequestration from national security decision-making, which has ensured that the management of the nuclear weapons programme remains a system controlled exclusively by scientists of the DAE and the DRDO. Commenting on the latter's 'abysmal record' in indigenous weapons development, he castigates the organisation's suo moto ballistic missile defence (BMD) initiative as 'a programme of fanciful utility' propelled by institutional interests.

The believer's viewpoint

Breaking the traditional institutional silence, Shyam Saran, former Foreign Secretary and current convener of India's National Security Advisory Board, has come out in the media and public forums to defend the position of the establishment, albeit not as a spokesman but as proxy. The focus of his discourse is to, inter alia, rebut the description of India's nuclear deterrent as 'an instrument of pride and propaganda' as well as counter the criticisms that nuclear weapons have failed to enhance India's security and nullified its conventional superiority over Pakistan, and that expenditure on conventional weapon systems is mounting in spite of the deterrent.

Starting with the ritual reiteration of India's faith in universal disarmament, Saran justifies the legitimacy of India's nuclear deterrent, ab initio, and highlights the progress made in operationalising the nuclear triad, providing hitherto unpublicised details about the function and organisation of the Nuclear Command Authority (NCA). Countering the 'perception' that the military is excluded from strategic decision-making and plays second fiddle to the bureaucracy and scientific establishment, he offers an anodyne argument about strategic decisions having to be 'anchored in the architecture of democratic governance'.

Lifting the 'credible minimum deterrent' discussion above the sub-continent-China level to place it in a global security context he justifies the DRDO's pursuit of BMD and multiple warhead (MIRV) capabilities as consistent with a no-first-use posture, since both enhance the survivability of assets and credibility of India's nuclear doctrine. Overall, Saran has rendered a most valuable service by dispelling many common misconceptions about the deterrent and thereby adding to its credibility.

Such discourse is to be welcomed, in order to counter growing scepticism. At the same time, there is need to call to account the national security establishment, whose egregious silence over the past 16 years has allowed such doubts to take root. Apart from addressing the naysayers and naive pacifists, there is also a need to address genuine concerns regarding the perceived inadequacies of India's nuclear arsenal and the ambivalence of those who wield it. There are justifiable fears about neglect by India's decision-makers of the hugely expensive nuclear deterrent. In an evolving strategic environment,

issues such as India's hastily made commitments to NFU, a 'minimal' arsenal and the self-imposed moratorium on testing call for reflection at the highest level.

The evolving sub-continental nuclear scenario

Evolution of the deterrent

The Pokhran II tests are now sixteen years in the past and eleven years have elapsed since the promulgation of the Nuclear Doctrine. Over this period, it is obvious that India's nuclear deterrent has undergone slow but steady transformation in terms of hardware, personnel, organisation and infrastructure.

Although the unorthodox, stove-piped chains of command for the 'troika' of SFC, DAE and DRDO remain in place, the SFC appears to be gaining in operational efficiency and is a frequent participant in DRDO's missile test firings as well as regular drills and exercises. Significant progress has also been made by the DAE and the DRDO in many aspects of command and control (C&C) that were lagging, including subterranean command posts, EMP-resistant communications, hardened silos and road/rail mobile launchers.

Now that cannisterised missiles are on the horizon, especially for submarine and road/rail mobile launchers, the availability of fail-safe permissive action links (PAL) and permissive enabling links (PES) assumes vital importance. More problematic will be the evolution of fresh standard operating procedures (SOPs) that remove the scientists embedded in the C&C chain and hand over control of weapons to the military.

The lifting of U.S. sanctions and easier access to technology from members of the Nuclear Suppliers Group should overcome many of the residual hurdles in India's 30-year old quest for inter-continental range missiles. Given the inability to undertake further testing, sophisticated technology and simulation techniques will be required for enhancing the reliability and yield of fission and boosted-fission warheads in India's arsenal. The availability of navigational data and communications as well as multi-spectral imagery from Indian satellite systems should prove beneficial in areas of strategic intelligence and targeting accuracy.

The constants

What has, however, remained constant is the contemporary Indian politician's detachment and indifference towards not just nuclear deterrence but most matters relating to national security. The politician, as a rule, has found it expedient to detach himself from national security matters because of his belief that they do not win or lose votes. He devotes himself to electoral politics and places total reliance, for advice and problem resolution, on the non-specialist MoD bureaucrat, and for many strategic-level decisions on the scientist.

The military continues to remain excluded from the higher echelons of the national security edifice. The first four National Security Advisors (NSAs) have been either former diplomats or policemen with intelligence backgrounds; the same holding true for a series of Deputy NSAs. A few retired military officers have, eventually, been inducted into the Strategy Programme Staff, which monitors intelligence inputs and undertakes perspective planning. However, there is a degree of coyness about their presence and they remain shadowy figures sans proper designations.

Given that a second attempt at national security reform, represented by the 2012 Naresh Chandra Committee, was torpedoed by an obdurate bureaucracy, it is unlikely that any significant changes have been made in the two-tiered NCA structure. The only indication that its languid functioning may have picked up pace comes from the greater frequency of press releases that emanate from a euphoric DRDO after each missile test firing. Despite technological change, New Delhi's security establishment has remained frozen in time over the past six decades. Nothing describes the situation more aptly than the pessimistic French aphorism, 'Plus ça change, plus c'est la même chose' – the more things change, the more they remain the same.

Minimum deterrent

Both India and Pakistan have declared their espousal of a credible 'minimum' deterrent, conveying the impression that they would be content with a small number of nuclear devices. Indian strategists, initially, offered various posture options, ranging from 'recessed' or 'de-mated' to 'non-weaponised' deterrence. India's politicians, hazy and ill at ease with the whole subject, spoke of 'a few' or 'a few tens' of nuclear weapons as

sufficient to deter a nuclear adversary. Prime Minister Vajpayee went so far as to make the simplistic declaration in 1998 that 'the fact that we have become a nuclear weapons state should be a deterrent itself.'

The most basic methodology for determining a 'minimum' starts with the assumption that a first strike on India, whether from the west or the north, will target as many of its warheads, missiles and air bases as space surveillance and intelligence can reveal to the adversary. It could also decapitate the country's political leadership that comprises the NCA. The 'assured retaliation,' on which credibility rests, must therefore come from the weapons that survive (due to hardening, mobility or concealment) and whose launch may have to be ordered by the successor NCA. The 'minimum' size of India's nuclear arsenal (warheads plus vectors) must, fundamentally, emerge from such a calculus.

There are numerous other factors that have a bearing on this issue, but of these, two deserve mention here. The adversary who plans a pre-emptive nuclear strike would obviously aim to eliminate the possibility of retaliation by the victim or minimise its magnitude. Therefore if a BMD system is likely to intercept a percentage of incoming missiles, the adversary must launch that many more to meet its objectives. Similarly, if either adversary was to install multiple warheads on its missiles, it would enhance the scope and magnitude of the attack/counter-attack. Both these factors would impact on calculations of 'minimum' and contain the clear potential for triggering a 'tit-for-tat' nuclear arms race.

Underwater leg of the triad

From the above, it is obvious that stable deterrence (in which neither adversary is tempted to adventurism) demands that the opponents pose a credible threat to each other by keeping their nuclear deterrents as operational and as secure as possible – the point that Koithara has belaboured in his book. However, any sign of vulnerability on the part of one side can tempt the other to launch a first strike.

As pointed out above, given the kind of transparency provided by satellites and other technical means, no air base or missile site - fixed or mobile - can remain hidden for long and will eventually figure on an enemy target list. The best way for India to provide invulnerability to its deterrent is to remove it from the enemy's

scrutiny and send it underwater, on an SSBN. Once the submarine dives into the deep waters of the open ocean it becomes virtually impossible to locate or attack. Unseen and unheard, the SSBN can remain on patrol station for months, with its ballistic missiles ready for launch at a few minute's notice. This is the kind of credibility that *Arihant* and her sisters will provide India's nuclear deterrent in the future.

To deter its nuclear adversaries, India needs a submarine-launched ballistic missile (SLBM) of 5,000-8,000 km range with adequate warhead yield. Such a missile would enable the SSBN to take up operational patrols in safe areas in the Bay of Bengal or even the Arabian Sea from where it could threaten cities and nuclear forces deep inside China or Pakistan.

The weapon currently slated for fitment on the *Arihant* is understood to be the *Sagarika* K-15 SLBM of about 750 km range. While this range is grossly inadequate, the *Arihant*/K-15 combination forms an essential stepping-stone for India to achieve true capability for a sub-launched nuclear deterrent. Work on a more advanced longer range SLBM is no doubt in progress and till then the *Arihant* will have to play the role of a trials platform for the DRDO.

Pakistan's nuclear stance

Pakistanis are at pains to convey that their strategic decision-making is rational and that there are no 'mad generals' in Rawalpindi. However, each of the past Indo-Pakistani conflicts has clearly demonstrated that operational planning in the Pakistani GHQ is influenced more by the wishful thinking of its mediocre military leadership than by good staff work and rational calculation. In the nuclear domain, India must not be surprised by a lurking Pakistani 'Dr Strangelove'.

In this context, Pakistani experts have been known to describe India's NFU undertaking as 'frivolous.' They assert that, as the smaller player, Pakistan cannot declare its doctrine and must retain an element of ambiguity. The sub-continental situation is likened by them to the NATO-Warsaw Pact equation in Central Europe, wherein the conventionally inferior NATO forces retained the option of graduated 'flexible response' (FR).

Perhaps, with FR in mind, Pakistan has initiated two major steps. It has switched from using enriched uranium for warhead fabrication to

plutonium, the production of which has been enhanced by three unsafeguarded Chinese nuclear reactors. The use of plutonium reduces warhead weight while enhancing its yield (with tritium boosting) and has endowed Pakistan with the ability to miniaturise warheads for installation on smaller, tactical weapons.

This, in turn, has enabled Pakistan to step into the realm of tactical nuclear weapons (TNW) with induction of projectiles like the 60 km range Nasr rocket. There has also been mention of a Pakistani nuclear 'triad' to ensure second strike capability based on the Babur cruise missile and Agosta class submarines with air-independent propulsion.

Pakistan's unstated 'doctrine of ambiguity' (or FR), which threatens a nuclear response to a conventional Indian advance into its territory (via its putative 'Cold Start' strategy), is incompatible with India's policy of NFU and massive retaliation, and is a recipe for instability and volatility on the sub-continent.

Need for reappraisal

So far, India has argued against the concept of TNW on the ground that the notion of limiting nuclear use to the battlefield is delusional because escalation would be inevitable. Any adversary not recognising this logic would meet with massive retaliation by India. In fact NSAB Convener Shyam Saran was confirming this when he stated, in public, recently that 'the label on a nuclear weapon used for attacking India is irrelevant'.

India has a few options open. One is to continue threatening massive nuclear retaliation in response to limited Pakistani use of TNW on Indian military forces, at the risk of appearing to over-react or respond disproportionately. Another option is to develop and deploy TNW with the objective of seeking escalation dominance and deterring Pakistan from using nuclear weapons on the battlefield. A third option could be to develop nuclear weapons to threaten Pakistani conventional forces while also retaining massive retaliation options to deter further escalation. Making a choice would call for detailed discussions between all stakeholders, including the military.

Currently, the nuclear deterrents of the two sub-continental adversaries are enveloped in a cloak of opacity, and there is a total lack of

communication between those who are entrusted with conceptual and physical management of the two arsenals. This has engendered mistrust and insecurity, both catalysts for the arms race in progress on the sub-continent.

Conclusion

The best democracies in the world have retained firm civilian control over their armed forces not by isolating them, but by involving them in the national security decision-making process. While India can fervently hope that it will never be faced with a nuclear conflict, it is courting disaster to keep the armed forces isolated during peacetime from the systems and weapons which they may have to deploy at extremely short notice during the fog and turbulence of war.

A nation's political and military postures as well as manner of conducting international relations must undergo substantive change on acquiring the status of a NWS. Not only has this not happened in India's case, but its national security structure and posture have remained ad-hoc and tentative, as if trapped in a debilitating time warp. The lacunae, pointed out in this brief, constitute an indictment of all Indian governments in the past 15 years since they have used the fig leaf of bureaucratic quibbles to stall the recommendations of expert groups constituted to reform national security.

China has not, so far, deigned to acknowledge India as a proper nuclear weapon state. It

maintains the fiction that the nuclear competition is between India and Pakistan and a dialogue, if any, should be confined to the two of them. In the sub-continental context, India and Pakistan are edging towards an uncontrolled spiral in the growth of nuclear weapons. This could become a mindless race, driven by mistrust and suspicion, rather than the actual needs of deterrence and stability. Even with the best command and control systems, and reliable PALs in place, the risks and dangers associated with maintaining large, vulnerable nuclear arsenals are too obvious to enumerate. They assume added significance given the inexorable rise of the Pakistani Taliban and kind of ethnic and the sectarian polarisation taking place in that nation.

The time is, perhaps, ripe for a nuclear 'glasnost' in India, whereby the cloak of needless opacity around the nuclear deterrent is lifted and as much unclassified information as possible about our nuclear capabilities made available to the tax-paying public. This would achieve three objectives. Firstly, it would convey reassurance to Indians that they are well protected by an effective nuclear deterrent which will obviate adventurism on the part of nuclear-armed adversaries. Secondly, it would send a clear message to Pakistan that brandishing tactical nuclear weapons is a dangerous ploy, discredited and discarded by the nuclear powers during the Cold War. Lastly, transparency, accompanied by sustained dialogue and confidence-building measures, would convince Pakistan of the need for stable deterrence on the sub-continent and lead to a substantive reduction in tensions.

Author's Biography

Admiral Arun Prakash retired as India's 20th Naval Chief and Chairman Chiefs of Staff in end-2006.

A pilot by specialisation, he is a graduate of the Indian Air Force Test Pilots School, the Defence Services Staff College and the U.S. Naval War College. He was awarded a Vir Chakra for gallantry while flying with an Air Force fighter-bomber squadron during the 1971 war. During his 40-year career, he commanded two air squadrons and a naval air station. His commands at sea include a missile-boat, two frigates and the aircraft-carrier INS Viraat. As a Flag Officer, he commanded India's Eastern Fleet, the National Defence Academy, the Andaman & Nicobar Joint Command, and the Western Naval Command. During his tenure as Chief, the Indian Navy saw many initiatives, including a disaster relief operation during the 2004 tsunami that rendered help not only on India's eastern seaboard, but also to neighbouring Indonesia, Maldives and Sri Lanka.

Post-retirement, he writes and speaks on strategic and defence-related topics. He has published a compendium of speeches and writings on maritime and security issues entitled *From the Crow's Nest* (2008). He recently completed a second two-year term as member of India's National Security Advisory Board.

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