COUNTER-STRIKE: INDIA'S NUCLEAR STRATEGY

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In recent times, there have been several writings suggesting, even demanding, a review/revision of India's nuclear doctrine. Civilian and military voices have expressed anxiety over the inability of the Indian nuclear doctrine to have deterred Pakistan from mounting acts of terrorism against India. They feel that Pakistan's nuclear strategy has been more effective and that it has managed to 'take India for a ride'. Meanwhile, China's ongoing conventional and nuclear modernisation and a growing assertiveness evoke a sense of apprehension. This is further exacerbated by the collusion of China and Pakistan on strategic matters and capability build-up. Pakistan has served as China's proxy, while using terrorism as its own surrogate. Both raise India's security concerns. India's experience of 26/11, the barbaric border incidents, the Chinese incursion into Depsang, irritation over denial of visas to residents of Arunachal Pradesh, etc are only some instances that have contributed to a sense of inadequacy of the Indian response to such threats. A resultant feeling of 'impotency' is manifesting itself as a clamour for change in India's nuclear doctrine.

This article argues that the reasons for the apparent 'softness' of India in handling its security concerns spawn a range of domains – priorities as

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The philosophy on which India's nuclear doctrine is premised is sound, and, hence, the doctrine itself is sensible. But, in order to translate into credible deterrence, it must be operationalised into a workable strategy. Such a strategy should rest on three pillars: capability (warheads and delivery vectors), political resolve (robust military command and control as well as decisive political decision-making), and communication of both (through effective signalling).

outlined by the government of the day, personality of the political leadership, nature of civil-military relations, confidence in military capability, state of the economy, public mood, international climate, etc. Each one of these contributes to engender a sense of disquiet or frustration. But, individually or collectively, they do not make a case for a revision of the nuclear doctrine.

The philosophy on which India's nuclear doctrine[1] is premised is sound, and, hence, the doctrine itself is sensible. But, in order to translate into credible deterrence, it must be operationalised into a workable strategy. Such a strategy should rest on three pillars: capability (warheads and delivery vectors), political resolve (robust military command and control as well as decisive political decision-making), and communication of both (through effective signalling). It is in some of these areas that India has scope for improvement. The anger against the doctrine, therefore, is misdirected. Efforts need to be ramped up on buttressing the other dimensions.

In order to explain these issues in some detail, this article is divided into four parts. The first section undertakes a brief description of definitions of terms such as doctrine, strategy and posture to explain the nuances of

1. A draft of the Indian nuclear doctrine was prepared by the first National Security Advisory Board chaired by Mr K Subrahmanyam. This was made a public document by the government on August 17, 1999, but it remained a draft. A few years later, on January 4, 2003, the Cabinet Committee on Security issued a press note on the operationalisation of the doctrine. This note accepted the basic attributes of the doctrine as credible minimum deterrence and no first use as laid down by the NSAB. But, it did mark a couple of differences too. For more on this, see Manpreet Sethi, "The Trumpet of the Elephant: India's Nuclear Doctrine", in *Nuclear Strategy: India's March Towards Credible Deterrence* (New Delhi: Knowledge World, 2009).

each. The second section identifies and explains the logic and substance of two basic attributes of the Indian nuclear doctrine – No First Use (NFU) and Credible Minimum Deterrence (CMD). The third section suggests the areas for improvement across the three supports of deterrence. The final section concludes with a recommendation for a Strategic Defence Review (SDR) that can help India better communicate its doctrine, strategy and posture to the domestic and international audience. Such an action would alleviate some of the sense of disquiet evident amongst the strategic circles.

A nuclear doctrine may be defined as a set of guiding principles that encapsulates the philosophy or explains the *raison d'etre* of one's acquisition of nuclear weapons. It effectively answers fundamental questions of when, how and where the weapon should be used in the cause of national defence. The doctrine, therefore, serves as a conceptual framework and conveys a sense of the country's worldview.

SEEKING DEFINITIONAL CLARITY

Terms like doctrine, strategy and posture are often confused and even used interchangeably. The three, however, operate on completely different planes and perform different tasks. Clarity on the nuances of each will help understand which dimension needs a change or reinforcement for greater credibility of deterrence.

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and used consistent with the purpose for which they have been acquired".[2] Beliefs reflected in a nuclear doctrine emanate from the strategic culture of a nation and essentially reflect its personality, or the idea of the nation. In this sense, the doctrine is relatively abiding and timeless. It changes when the nation decides to amend its core values or belief systems. A doctrine, therefore, is a manifestation of the central spirit or the foundational nature of the state. By doing so, it becomes a guide for nuclear strategy.

A **strategy** is a plan of action designed to achieve an aim. The United States' Department of Defence (DoD) defines it as a "set of ideas for employing the instruments of national power in a synchronized and integrated fashion to achieve national objectives". The purpose of strategy is to achieve the aim that has been defined at the level of principle by the doctrine. For instance, the draft doctrine formulated by the National Security Advisory Board (NSAB) establishes, "India's primary objective is to achieve economic, political, social, scientific and technological development within a peaceful and democratic framework". It further elaborates that "India's strategic interests require effective, credible nuclear deterrence and adequate retaliatory capability should deterrence fail". As is evident, the doctrine maintains nuclear weapons as a tool for deterrence, not for war-fighting. Hence, the nuclear strategy is directed by the doctrine to craft a plan of action that primarily ensures deterrence, but also assures retaliation in the eventuality that it fails. This requires a strategy to devise plans for building a certain amount of stockpile of warheads, developing necessary delivery vectors, having a requisite command and control system, ensuring the survivability of all, and undertaking the necessary communication to convey deterrence.

A **posture,** meanwhile, conveys attitude, approach or frame of mind. It reflects the policy or stance adopted by a government towards capability build-up in terms of personnel and material that would constitute and affect the capacity to fight a war. It could even be an exaggerated or assumed position meant to impress or mislead. The posture, therefore, is more a manifestation of operational issues. But it traces its roots to the plan of

2. Ashley Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal* (Santa Monica, CA: RAND, 2001), p. 260.

action designed by strategy, which itself derives its guidance from the principles reflected in the doctrine.

Evidently, the three formulations work at different levels. Posture, from among the three, is most likely to undergo modification in keeping with the changing threat environment. It could become more or less militant, or more or less defensive, depending on the nature of threat perceptions. For instance, during the Cold War, the US and USSR kept their nuclear forces on a high alert posture. Since the end of the Cold War, this posture has progressively relaxed on both sides. India's own nuclear posture has evolved from one that reflected recessed deterrence to one that will indicate a more ready arsenal especially once the SSBNs (nuclear powered submarines) become operational in due course. However, the very fact that India has opted for a nuclear strategy of building a nuclear triad to ensure the survivability of its arsenal is a directive obtained from the no first use principle of the doctrine. Doctrine, strategy and posture are indeed interlinked, each flowing from the previous, and operating in its own medium and sphere of action.

INDIA'S NUCLEAR DOCTRINE: TWO ESSENTIAL ATTRIBUTES

Counter-Strike/ No First Use

According to a well known military strategist, Barry Posen, "A military organisation prefers to fight its own war and prevent its adversary from doing so ... An organisation fighting the war it planned is likely to do better than one that is not."[3] This is because offence allows the military to stay with its pre-deliberated course of action while denying the adversary the advantage of being able to play out his moves. With conventional weapons, it is possible for armed forces to stick to their war-time Standard Operating Procedures (SOPs). They can concentrate on the first phase of war to be undertaken by them at the time and place of their choice and thereby either increase the chance of their victory or lessen the damage of war on

3. Barry R. Posen, "The Sources of Military Doctrine," in Robert Art and Kenneth Waltz, eds., *The Use of Force: Military Power and International Politics* (Boulder, Colorado: Rowman and Littlefield Publishers, Inc., 2004), p. 24.

Some have argued that India was trying to earn brownie points or blunt international opprobrium for its overt nuclear testing when it accepted NFU. However, while these came as incidental collateral benefits of the NFU doctrine, it was the military logic that held sway over a majority of the NSAB members.

themselves. But the equation gets skewed with the entry of nuclear weapons.

In a situation where both sides have secure counter-strike capabilities, even if it is not a situation of mutual assured destruction, a nuclear first strike, however splendid it might be, cannot rule out the possibility of nuclear retaliation. Hence, the calculation of the first user cannot be limited to the damage it will cause by his first strike, but must also take into account the damage in space and time that it will suffer from the adversary's response with a weapon of mass destruction. Therefore, an offensive nuclear strategy can neither assure victory, nor promise no nuclear damage to self. And, given the nature of the weapon (whose effect transcends space and time), no rational government could brook any nuclear damage as acceptable.

This logic prompted India to accept NFU as a doctrinal principle. Some have argued that India was trying to earn brownie points or blunt international opprobrium for its overt nuclear testing when it accepted NFU. However, while these came as incidental collateral benefits of the NFU doctrine, it was the military logic that held sway over a majority of the NSAB members.[4] They discussed the issue at length and found many advantages of an NFU. But before discussing these, it would be worthwhile to examine two scenarios in which it is believed India might be tempted to resort to first use of nuclear weapons.

The first of these builds such a case mostly in the context of a conflict with China. In a hypothetical scenario, if India was facing the prospect of conventional defeat, it is assumed that it might be tempted to use nuclear weapons. But, the question that needs to be answered is: how would India

4 As learnt during many discussions on the subject with Air Cmde Jasjit Singh who was one of the authors of the doctrine as part of the first NSAB.

gain by using the nuclear weapon? In fact, once it has done so, its fate would shift from being defeated-now-but-living-to-fight-another-day to one of severe damage/annihilation since China would respond with its nuclear weapons too. Jonathan Schell explained this dilemma well when he questioned, "For how can it make sense to 'save' one's country by blowing it to pieces? And what logic is there in staving off a limited defeat by bringing on unlimited, eternal defeat? Nuclear deterrence is like a gun with two barrels, of which one points ahead and the other points back at the gun's holder."[5] Robert McNamara made a similar argument based on his experience of more than 40 years of making and overseeing nuclear war plans. He wrote, "During that time [when in office], I have never seen a piece of paper that outlined a plan for the United States or NATO to initiate the use of nuclear weapons with any benefit for the United States or NATO… To launch weapons against a nuclear-equipped opponent would be suicidal."[6] Indeed, there is no way to effectively contain a nuclear strike and there can be no guarantee against unlimited escalation once the first nuclear use/strike occurs. Therefore, India would not have defended itself even after using the nuclear weapons first. It might have the satisfaction of having wrought nuclear damage on the adversary, but it would also carry the guilt of having brought a nuclear strike upon itself.

A second scenario revolves around the question of whether India should stick to NFU if it gets to know that the adversary is preparing for a nuclear strike? Should not nuclear preemption then be the right step? The answer to this lies in understanding that even preparation is no guarantee of a nuclear strike. Rather, it may well be part of a strategy of "coercive diplomacy." It is not a coincidence that nearly all of the more than 50 incidents of threat of use of nuclear weapons until now have actually intended coercion.[7] Therefore, despite the apparent show of readiness, there could still be a chance that nuclear weapons would not actually come into use. But by striking first in

5. Jonathan Schell, *The Abolition* (Stanford, CA: Stanford University Press, 2000), p. 54.
6. Robert McNamara, "Apocalypse Soon," *Foreign Policy*, May-June 2005.
7. For a comprehensive list of incidents until 1996, see Jasjit Singh, "Why Nuclear Weapons," in Jasjit Singh, ed., *Nuclear India* (New Delhi: Knowledge World, 1998), pp. 12-13.

A country even with a first use doctrine may or may not use its nuclear weapons despite the projected preparedness, but after having been struck and where the first strike has not been disarming or decapitating (which is well-nigh impossible with the kinds of arsenals states with nuclear weapons today have), retaliation would be a certainty.

the face of apparent projected readiness by the adversary, India would end up inviting retaliation for certain. A country even with a first use doctrine may or may not use its nuclear weapons despite the projected preparedness, but after having been struck and where the first strike has not been disarming or decapitating (which is well-nigh impossible with the kinds of arsenals states with nuclear weapons today have), retaliation would be a certainty.

Therefore, under neither of these circumstances does it seem to make sense to use nuclear weapons first. In fact, the act of using nuclear weapons first is not as easy as it is believed to be since the first user has to take into account not just what would happen in the first phase of war, but also on how it would proceed and end—scenarios which are not easy to coherently contemplate in the presence of robust retaliatory nuclear weapons. Hence, even countries with a first use strategy find it very difficult to actually execute it, and also politically limiting to do so. This is a thought worth considering since conventional wisdom has us believe that first use is more liberating compared to a counter-strike strategy. But serious thought to actual execution of first use reveals the complexities involved in doing so. After all, the purpose of first use should be to convey deterrence through communication of four essential messages:

- I will not hesitate to use the weapon first.
- By doing so, I would be able to substantively improve my situation.
- My first strike will interfere with, and degrade, your second strike capability.
- I will be able to *come out of the crisis looking better after the use* of the nuclear weapon than without its use.

The credibility of this communication, however, is seriously jeopardised if the adversary has a survivable nuclear force. Retaliation, in that case, complicates the calculations of the first user on how it could "look better" after suffering nuclear damage to itself. As graphically explained by a strategist, "Engaging in a nuclear war with a nation with which one is in a condition of mutual vulnerability would be like running a red light across a high speed, heavily travelled, multilane highway under conditions of near zero visibility. One might make it safely across, but one could not form a reasonable expectation that one would."[8]

Therefore, the essential question that the first user has to consider is whether in a state of mutual vulnerability, he can emerge in a better position against one who can retaliate? Or can NFU convey its own set of messages more convincingly:

- I will not be the first to use nuclear weapons.
- But *any first use (irrespective of yield, target or extent of damage) would trigger assured retaliation to cause damage of a kind that you would find unacceptable*.
- My counter-strike will ensure that your material situation is worse off after your having used the weapon first.
- I might suffer losses, but you will not escape either and you would have brought it upon yourself.

As is clear from the above, an NFU strategy bravely offers to concede the onus of escalation to the adversary. It thereby becomes more liberating in many ways. For one, it is beneficial from the *point of view of nuclear arsenal requirements*. First use postures based on projection of nuclear war-fighting require large arsenals of first strike weapons (such as accurate missiles with multiple independently retargetable vehicles), nuclear superiority to carry out counter-force attacks against an adversary's retaliatory forces, elaborate and delegated command and control structures to handle Launch on Warning (LoW) or Launch Under Attack (LUA) postures to launch simultaneous nuclear attacks from, and over, dispersed forces. NFU, on the other hand,

8. Steven P. Lee, *Morality, Prudence, and Nuclear Weapons* (Cambridge: Cambridge University Press, 1993), p. 16.

requires building nuclear forces which need not be in large numbers, but which are ensured survivability through a mix of measures that include hardening of nuclear storage sites, deception, mobility, dispersal over different delivery vectors, and a level of defence. The core of this strategy lies in projecting the invulnerability of a sufficient part of the arsenal to even a worst case first strike and a near automaticity of retaliation which can cause damage that the adversary is unlikely to find acceptable vis-a-vis the gains made through the first use.

Secondly, NFU is liberating from the *point of view of military command and control*. It allows the military to adopt a more relaxed posture rather than straining at the nuclear leash in a hair-trigger alert posture that can easily fall prey to misadventure. Neither does it have to perfect the logistics of first use which is not easy considering that it would involve coordinating a nuclear attack on a diversified arsenal with speed and surprise to hit the adversary's forces before they can be launched or dispersed. It involves addressing complicated questions such as whether to launch aircraft first or missiles, how many to launch in the first wave, etc. A credible first use requires forward deployment of nuclear forces which also increases the likelihood of accidental or unauthorised use. The LOW/LUA postures require pre-delegation of authority to launch nuclear weapons and this can never be a risk-free option. Responsible command and control is not easy to enforce at each level given that in times of crisis, lack of information, misinformation and misjudgments could often become causes of confrontation without either side having the intention to precipitate one. As Robert McNamara once said, "It is correct to say that no well-informed, coolly rational political or military leader is likely to initiate the use of nuclear weapons. But political and military leaders, in moments of severe crisis, are likely to be neither well-informed nor coolly rational."[9]

NFU eases this dilemma. Ironically, this becomes *liberating for the adversary* too, which paradoxically is beneficial to self. NFU alleviates the adversary's insecurity by relieving pressure on its leaders for launching a

9. Robert McNamara, *Blundering into Disaster: Surviving the First Century of the Nuclear Age* (London: Bloomsbury, 1987), pp. 13-14.

preemptive strike. If the adversary were constantly under the fear that a nuclear strike was imminent, his own temptation to use his nuclear force would be higher. But, NFU helps to mitigate the 'use or lose' pressure and thereby lessens crisis instability since it sends a message that does not place the adversary on the edge at all times.

Finally, NFU *frees the political leadership from the psychological pressure* of taking the difficult decision of using a *Weapon of Mass Destruction* (WMD). This is sure to weigh on him/her personally for the damage caused and for the international opprobrium for having breached a nuclear taboo. And to top it all, to do so in the knowledge that own vulnerability to retaliation can yet not be escaped. Therefore, rather than having the first use/strike option, it would be better to take measures to deter the adversary. Deterrence is, in fact, the only real defence against nuclear weapons.

In view of all of the above, NFU appears far more sensible and credible. While a country would find it very difficult to use the weapon first, the decision of retaliation would be far easier, seemingly legitimate, and more guilt-free to make. In fact, by projecting assured retaliation, a nation displays greater confidence, and, hence, greater deterrence credibility. And, by establishing the nuclear weapon as an instrument of punishment through retaliation, the country lessens the possibility of deterrence breakdown, and, thus, minimises, if not prevents, the very use of nuclear weapons. NFU actually encourages the possibility of 'no use' instead of 'sure use'.

Therefore, through NFU, coupled with assured retaliation, a country can rein in the initiative more in favour of no use of nuclear weapons. Unless the adversary is completely irrational, has suicidal tendencies or is utterly unmindful of national survival and international public opinion, the possibility of a nuclear war should not arise.

CREDIBLE MINIMUM DETERRENCE (CMD)

The rejection of the concept of nuclear war-fighting frees India from the need to match the nuclear arsenal of its adversary/(ies) weapon for weapon. It was stated by Kenneth Waltz several decades ago, "Forces designed for war-fighting have to be compared with each other. Forces

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designed for war deterring need not be compared. The question is not whether one country has less than another, but whether it can do unacceptable damage to another…."[10] With the principal role of India's nuclear force being to protect the nation from nuclear blackmail and coercion, instead of any desire to annex or mount aggression, the country's policy-makers perceive the need for only 'credible minimum deterrence'. Official pronouncements, however, have refused to be drawn into quantifying the minimum. Rather, the actual size and composition of the nuclear arsenal is left to the assessment of threats and own technological capability. As Jaswant Singh, India's foreign minister in 1998, had said, "The minimum is not a fixed physical quantification. It is a policy approach dictated by, and determined in, the context of our security environment. There is no fixity. Therefore, as our security environment changes and alters and as new demands begin to be placed on it, our requirements too are bound to be evaluated."[11]

While the determination of CMD would change with transformation of threat perceptions and technological developments [such as deployment of an effective Ballistic Missile Defence (BMD) by the adversary], it definitely need not seek superiority or even parity with an adversary's nuclear forces in the numbers, yields or types of weapons. However, this freedom is qualified by the need to acquire an *assured counter-strike capability* that can inflict *unacceptable damage* on the enemy. As is

10. Kenneth Waltz as quoted by Gen Sundarji, *The Blind Men of Hindoostan* (UBS Publications Distributors, 1993), p. 68.
11. External Affair Minister's speech in Parliament on December 16, 1998. Downloaded from http://www.meadev.gov.in.

evident from this statement, CMD imposes two essential prerequisites for credible deterrence.

Taking the second part of the statement first, the numbers have to be of an order that appears capable of inflicting unacceptable damage (despite suffering a first strike). This raises the question of how does one estimate the unacceptability threshold of the adversary. It cannot be easy and nuclear strategists have warned of the dangers of mirror imaging where one assumes that what is not acceptable to self would also not be acceptable to the adversary. But, this may not hold true. A deep study of the strategic culture, the socio-psychological make-up, the economic growth (the more developed the country, the less the loss it would be willing to take as a result of a nuclear exchange), and the nature of the political system (the more closed a system, the greater the loss it could take) among other factors, is necessary to make a considered judgment of what would be unacceptable for the adversary.

Fortunately, it is not very difficult to impose punishment with nuclear weapons. By their very nature, they impose huge damage on life and property that cannot be restricted in time and space. Moreover, given the high density of population in this region, punishing a first user with unacceptable damage neither calls for the kinds of numbers that the superpowers built, nor the kinds of yields that they experimented with. A sufficient number of kiloton weapons dispersed intelligently over the target and made to explode at an intelligent height to maximise damage suffice for credible deterrence.

In this respect, the aspersions cast on the thermonuclear capability of India are quite irrelevant. It may be recalled that in 2009, a set of Defence Research and Development Organisation (DRDO) scientists had questioned the veracity of the results announced by the Development of Atomic Energy (DAE) on the thermonuclear yield of the test. The DAE had defended its stand. Irrespective of who one believes, the point is that nuclear weapons, even, if not of megaton yield, are powerful deterrents. The weapons dropped on Hiroshima and Nagasaki were only 15-20 kiloton in yield. And yet they scarred the human mind enough to not merit a repeat performance. Of

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course, there is an argument to be made that H-bombs make more economic sense when carried on expensive, inaccurate Intercontinental Ballistic Missiles (ICBMs). They are believed to provide more bang for the buck. But, given the number of people who would be threatened by India in case of counter-strikes on cities, can the loss of life and property caused by a kiloton weapon be less of a deterrent? Would it matter to the adversary, or to India, whether the destruction was caused by a fission or fusion weapon as long as it caused unacceptable damage? In the current international climate, it is virtually impossible for India to consider the conduct of another series of tests to establish its thermonuclear capability beyond doubt to the satisfaction of the sceptics. But, fortunately, desirable though it might be considered by some, it is not essential for deterrence.

The second requirement of deterrence based on counter-strike relates to the criticality of ensuring that sufficient warheads and delivery vehicles survive a first strike and are available for retaliation. This calls for survivability measures such as hardened silos, mobile launchers, deployment beyond the reach of hostile delivery systems, dispersion of the arsenal on a triad, and a pre-determined chain of succession for the weapon release authority. Reliability of the delivery vectors is critical for deterrence credibility and this includes dependability of communication (that the correct message is delivered at the right time for launch) and reliability of launch (that the missile actually lifts off); of the booster (that it ignites in time); of separation (of the booster from the missile after burn-out); of penetration (despite enemy air defence systems); and of detonation at the designated target.[12]

12. For more on this, see Sundarji, n. 10, p. 76.

While each of these requires a technological sophistication, fortunately, deterrence requires more of mind and perception management to convey the idea of nuclear damage than inflicting the damage itself. More important, instead, is the need to convey the message that no use of the nuclear weapon would go unanswered. This, then, bring us to the realm of strategy from doctrine.

INDIA'S NUCLEAR STRATEGY – WHAT'S AMISS?

While the Indian nuclear doctrine is propounded on sound logic, aspects of its operationalisation into a credible deterrent strategy still require some pieces to either be built, further improved, or effectively communicated. As mentioned earlier in the paper, such a strategy must be built on the three pillars of capability, resolve and communication. An examination of each would reveal the areas where there is scope for improvement.

Capability Build-up -- Milestones yet to be Achieved

While CMD requires India to build an arsenal just large enough to inflict unacceptable damage, NFU imposes the requirement of building it in such a manner as to ensure retaliation after absorbing a first strike. For effective deterrence, therefore, a certain amount of nuclear hardware is critical. This essentially involves two things: nuclear warheads and delivery vectors. On the first, the nature of the five nuclear tests in 1998 has equipped India with the capability to build a range of nuclear weapons – from sub-kiloton to thermonuclear. India's nuclear doctrine has no need for the first kind, commonly referred to as tactical nuclear weapons, primarily because India has eschewed the concept of nuclear war-fighting. India conveys deterrence through the threat, nay promise, of punishment through assured retaliation. Therefore, the adversary's use of even battlefield weapons will be met with a punishing response that he would find unacceptable.

This requires nuclear delivery vectors of adequate ranges and reliability to inflict punishment. Over the last decade, efforts have been visible in the development and gradual deployment of a number of land-based ballistic missiles to fulfill this role. Short range Prithvis and intermediate range Agni variants are already operational. Graduating to the next level, the

long range Agni V missiles are likely to become operational before the end of this decade. This would enhance India's deterrence, especially vis-a-vis China. However, work on three other technological capabilities is necessary to further the cause of credible deterrence.

The most urgent pending task is the operationalisation of the sea-based leg of India's nuclear triad. While mobility is an important advantage of land-based missiles and most Indian missiles are rail and road mobile, the highest level of survivability lies in placing nuclear tipped missiles with sufficient ranges on nuclear powered submarines (SSBNs). This is the most survivable of the three delivery vectors and, hence, the projection of credible deterrence is best achieved through SSBNs carrying Submarine Launched Ballistic Missiles (SLBMs) of adequate ranges. The INS *Arihant*, India's first SSBN, setting out for sea trials in 2014, will mark but the start of what will be a long journey of building an operational SSBN force. While more boats are planned, India is still lagging in the range of the SLBMs. What have been tested until now and that too from underwater pontoons, not submarines, are the K-15 with a range of 700-750 km and more recently in March 2014, the K-4 with a range of 2,000 km.[13] These ranges are insufficient for credible deterrence against China. The missiles have to go up to at least 5,000 km and more to reach targets whose loss is deemed unacceptable by the adversary while own platforms stay out of harm's way. A submarine launched version of the Agni-V should be the next technological milestone in the service of credible deterrence.

Secondly, focus has to be retained on improving the penetrability of Indian missiles. Given China's BMD, even if of limited capability, Indian missiles will have to be equipped with counter-measures to evade interception in order to convey the capacity to cause unacceptable damage. Development of Multiple Reentry Vehicles (MRVs), which hit the same target with many bombs, and Manoeuvrable Reentry Vehicles (MaRVs) that can drastically change trajectory to evade interception in the terminal stage, are capabilities that will help in buttressing deterrence.

Thirdly, improving the accuracy of the Agni-V would be a worthwhile effort. Of course, this is not necessary for the missile in its nuclear role and

13. "India Tests New Underwater Nuclear Missile", *The Times of India*, March 26, 2014.

according to reports, it already has a fairly good accuracy which should suffice for nuclear retaliation on densely populated cities. In any case, for the time being, the missile is to be built in adequate numbers to project nuclear deterrence. But, in the long run, an accurate long range ballistic missile will serve to convey conventional deterrence too. As is known, the USA is pursuing the Global Prompt Strike (GPS) which envisages the use of strategic missiles with conventional warheads in order to reach distant but time sensitive targets. Blurring of lines on conventional and nuclear missiles appears to be the emerging trend and China too keeps both kinds of missiles under the control of the Second Artillery Corps. India must be mindful of this trend and seek to enhance the accuracy of all its missiles for better conventional deterrence.

Power projection is a valid task of a missile and the very act of testing sends a powerful signal. The two tests of the Agni-V have been duly noted by India's regional adversaries as well as by the international community. Further capability build-up is necessary. But that can meet only half the requirement of credible deterrence. The second half must be conveyed through evidence of political resolve.

Political Resolve

The actual use of the nuclear weapon is a political decision. Therefore, for deterrence to be credible, visibility of political will through an organisational set-up reflecting institutional decision-making is crucial. There is a dire need of conducting periodic scenario building exercises and regular threat assessments to equip the political leadership with the requisite understanding on how to play the sophisticated game of nuclear deterrence.

A former minister of Pakistan mentioned to me at an international conference that Rawalpindi believed that its nuclear weapons had practically obviated the possibility of a conventional Indo-Pak War. India, he believed and he claimed so did his countrymen, would never have the motivation or the political will to initiate a conventional war owing to the fear of escalation. In making such an assumption, it is clear that Pakistan is not doubting India's capability, but its will to mount retaliation. Two

In fact, it must also be mentioned that during the Cold War, even after building the kind of stockpile the US did, it gave up massive retaliation as an incredible strategy. It was seen to place Washington in a 'put up or shut up' dilemma and, hence, considered incredible and insufficient to deter. The USA opted instead for the strategy of flexible response.

issues then beg addressing from India. One, communication of political resolve to punish Pakistan when acts of terrorism are traced to the establishment, and secondly, communication of a kind of retaliation that sounds credible.

Communication and Signalling

Indeed, the most important pillar of the credibility of deterrence is communication. The capability build-up is meaningless if the adversary does not know about it, misreads it, or if it doubts the resolve of the country to put it to use. It is critical, therefore, to convey a coherent and consistent message to the adversary so that he does not premise his own nuclear strategy on mistaken assumptions. Simultaneously, communication is necessary to reassure the domestic populace and to enhance their understanding of security issues confronting the nation.

Fortunately, communication of resolve can be displayed across a range of issues. In fact, the resolve does not have to be conveyed through the conduct of a conventional or nuclear war. That would be foolish. But, its evidence on issues as varied as stringent law and order enforcement at home, firmness in policy making and pursuit of inter-state relations, zero tolerance for terrorism, etc can effectively convey it. More specific to the nuclear domain could be actions such as providing information on the meeting of the Political Council of the Nuclear Command Authority to consider India's threat environment or on conduct of military war-games in which the use of nuclear weapons by the adversary is factored in and successfully handled.

The second aspect of communication relates to the credibility of the kind of punishment that is being threatened. The NSAB draft doctrine had

qualified retaliation as *assured punitive*. But the 2003 Cabinet Committee on Security (CCS) note changed this to *massive retaliation*. Coming in the aftermath of the long mobilisation of Operation Parakram that achieved little by way of India's objective of getting Pakistan to give up terrorism, and also after the delineation of vague, ambiguous but very low red lines by Pakistan[14], it was felt that the use of the term massive would better deter Pakistan from contemplating easy or early use of nuclear weapons since India's response would be suicidal for it.

However, the change of language failed to enhance the credibility of the deterrence, particularly since it was not backed by an exhibition of firm political resolve. In fact, it must also be mentioned that during the Cold War, even after building the kind of stockpile the US did, it gave up massive retaliation as an incredible strategy. It was seen to place Washington in a 'put up or shut up' dilemma and, hence, considered incredible and insufficient to deter. The USA opted instead for the strategy of flexible response.

But for India, flexible response premised on nuclear war-fighting is not the answer. In fact, the language in the draft nuclear doctrine that spoke of assured punitive retaliation without qualifying the nature of retaliation in terms of its magnitude had been a wise choice. Given India's subscription to NFU, the message of the *assuredness of retaliation to cause unacceptable damage* is far more critical than the magnitude of retaliation.

Having made this change, however, in 2003, it now seems difficult in today's political climate for India to return to the language of the draft doctrine. In such case then, the focus must be on enhancing the expression of resolve to indicate that India would not hesitate to consider a counter-strike that would result in disproportionate loss to the adversary. It would not climb the escalation ladder one step at a time. Just as Pakistan claims that there is a one rung escalation ladder that would take it up from India's conventional response to a nuclear riposte, India should communicate that it too has a one rung ladder that would take any nuclear use (in the battlefield or otherwise) to a nuclear retaliation that would result in substantial damage to the adversary.

14. Statement made by Lt Gen Khalid Kidwai, then director general of the Strategic Plans Division, a pivotal organisation in Pakistan's National Command Authority, in an interview in 2001.

It is to the credit of the government that in 1999, just fifteen months after the conduct of the nuclear tests, the nation was presented with a draft nuclear doctrine. It was followed up by a two page "Operationalisation Note" of the CCS in 2003. But since then, for over ten years now, there has been silence.

For this message to carry weight, it is equally important that there is greater transparency of the military dimension of the nuclear command and control too, including redundancies that assure automaticity of nuclear response. Consequently, there is a requirement for strengthening the public profile of the Strategic Forces Command. The knowledge of the existence of this tri-Service organisation and a level of calibrated transparency on its role and mandate would go to assure the Indian public, while simultaneously sending the signal of intent and purpose to the adversary. As said by an analyst, "It makes no sense to surprise an opponent with unanticipated retaliation when a clear signal could have deterred unwanted activity in the first place"[15]. Therefore, indications of measures being taken to ensure survivability of the chain of command at the primary, secondary and even tertiary levels would be prudent.

It is to the credit of the government that in 1999, just fifteen months after the conduct of the nuclear tests, the nation was presented with a draft nuclear doctrine. It was followed up by a two page "Operationalisation Note" of the CCS in 2003. But since then, for over ten years now, there has been silence. India has not thought of bringing out a document like a Strategic Defence Review (SDR) (or whatever it may be called) that could flesh out the country's nuclear threat environment, its deterrent strategy and posture, the focus of immediate priority, as well as a long-term approach to issues of non-proliferation and disarmament.

This article recommends an Indian SDR to meaningfully fill the prevailing 'information vacuum' on nuclear issues. Of course, it cannot be denied that some amount of opacity is necessary for nuclear deterrence,

15. James J Wirtz, "Deterring the Weak: Problems and Prospects", *Proliferation Papers*, IFRI Security Studies Centre, Fall 2012, p. 7.

but calibrated transparency on some nuclear aspects is equally critical for credible deterrence.

STRATEGIC DEFENCE REVIEW

Nearly all nuclear weapon states periodically issue an official statement in the form of a Review or a White Paper to provide a peep into their threat assessments and response priorities. The US Nuclear Posture Review (NPR) is a well known document. Russia too periodically announces a military doctrine and has used it to signal change in the circumstances of the use of nuclear weapons. Since 1998, China has been bringing out a White Paper on National Defence (WPND) mostly every two years to indicate how it conceptualises its national defence, threat perceptions and security goals, including in the nuclear domain. So do the UK and France.

Most such documents provide general indications on the nation's assessment of its threat environment and the kind of capability that it wishes to build. For instance, the US NPR of 2010 identified nuclear terrorism and proliferation as the topmost threats facing the country. Accordingly, Washington put its focus on global efforts aimed at securing nuclear materials while clearly articulating the threat that countries found guilty of sponsoring terrorists would be subjected to American military strikes. Since the threat from near nuclear peers was found of a second order, the US downgraded its nuclear readiness posture by removing the nuclear bombers from 24 hour alert and also de-MIRVing its missiles. Nevertheless, the NPR did mention the development of conventional capabilities as also those necessary to operationalise its GPS strategy.

Similarly, the Chinese WPND explains the country's threat perceptions and national security goals. Divided into many sections, it provides generic references to the growing advancements in the country's ability to conduct joint operations with precision, informationised strikes, etc. Over the last three White Papers, China has devoted complete sub-sections to explaining the role and capabilities of its Strategic Artillery Force (SAF). While the 2008 paper had called upon the SAF to "build a streamlined and effective strategic force by raising the informationisation of its weaponry and

equipment systems, build an agile and efficient operational command and control and increase capabilities of land-based strategic nuclear counter-strikes and precision strikes with conventional missiles", the 2010 paper stressed modernisation of "capabilities in rapid reaction, penetration, precision strike, damage infliction, protection and survivability". Given that the SAF has the responsibility for both conventional and nuclear missiles, the paper also reveals how China continues to "improve the conditions of on-base, simulated and networked training" including in conduct of "trans-regional maneuvers" and in "complex electromagnetic environments". Such disclosures on posture are meant to buttress deterrence.

Crafted along the lines of SDRs issued across the world that provide generic indications on threats and the means to tackle them, an Indian SDR would be particularly helpful in addressing some of the concerns that have been raised in recent times on the credibility of the Indian nuclear deterrent. Besides a reiteration of the basic doctrinal attributes of India's nuclear capability, the SDR could highlight some specific issues. Two examples by way of illustration could be mentioned. The first could be an articulation of the role of missile defence in India's nuclear strategy. Going by the recent technological developments, India seems to be surely and steadily moving towards the development and eventual deployment of some kind of a BMD capability. However, if India is to ensure that this capability does not destabilise the nuclear deterrence equations with Pakistan and China, it is imperative that certain clarity be brought to the nature and type of BMD that India plans to have. Right now, the country seems to be driven by the technological euphoria generated by a series of successful missile intercepts. Meanwhile, Islamabad perceives it as eroding its deterrence capability and has begun investing in cruise missiles and other counter-measures to defeat an Indian BMD. In case India is to escape being pulled into an offence-defence spiral, it is necessary that the logic and scope of the Indian BMD is explained. This capability can best be used as a measure for enhancing the survivability of its retaliatory capability (warheads, delivery systems and command and control) in view of India's NFU, rather than protecting cities. Given India's missile threat environment, the latter is virtually impossible

unless the BMD is technologically of a very high order and that obviously means expending large amounts of money. But, by explaining the rationale of the BMD for defence of counter-strike, its destabilising effects can be arrested. And, the SDR could be one means of such communication.

Yet another issue that could do with some clarity is India's response to an act of nuclear terrorism. Given India's past experience of Pak-sponsored terrorism, this is a threat that looms large. It would be worthwhile for New Delhi to express its assessment of such a threat and its likely responses. This would showcase resolve that no such act would go unpunished. Doing so through the SDR would enhance deterrence.

Opacity and ambiguity in nuclear numbers and postures has been an attribute of the Indian nuclear strategy. However, an SDR can perform the crucial task of clearing misperceptions through a certain amount of transparency without going into the specifics of the arsenal. This is critical given that misperceptions and miscalculations can result in an inadvertent nuclear escalation, especially between nuclear neighbours that share border disputes and are prone to border skirmishes.

Such a document would actually be of immense value for two reasons. One, it would aid strategy formulation and action prioritisation within the country while providing assurance to the domestic public. As Shyam Saran said in a lecture on the subject, "There is need to take the people of India into confidence about the risks and benefits of maintaining a nuclear deterrent. In a democracy, this is critical to upholding a broad consensus on dealing with the complex and constantly evolving security challenges our country confronts." Meanwhile, the SPR would communicate with the adversary and its content and tenor could create the atmospherics to help stabilise nuclear equations.

CONCLUSION

No doctrine is cast in stone. It reflects national political, economic and technological realities and could change as these parameters transform. But, for the time that it exists, a nuclear doctrine performs the crucial task of providing a window to how a country perceives its nuclear weapons.

It explains why it needs these WMD and how it plans to use them in the achievement of those objectives. India has premised its need for nuclear weapons on safeguarding itself against nuclear coercion or blackmail. Accordingly, New Delhi has enunciated a nuclear doctrine that perceives a political role for its nuclear weapons. It ascribes to NFU since it holds that the weapon has no role in enforcing compellence or staging aggression, but will only be usable in a situation where an adversary has first used such a weapon. In such a situation, the doctrine prescribes assured retaliation to inflict unacceptable damage. In order to carry out this exercise, the doctrine aspires for a minimum number whose credibility resides in its survivability.

The operational nuclear strategy as flows from India's nuclear doctrine provides the least risk option in the presence of nuclear weapons. It premises nuclear deterrence on a small arsenal that is not on hair-trigger alert, and, hence, is less open to the possibilities of miscalculation or accidental use. At the same time, given its own orientation towards counter-strike to impose punishment, the strategy seeks to minimise the chances of nuclear use in the first place. The credibility of the deterrent strategy still requires some capabilities to be developed, but that is work in progress. Given India's size in terms of its geographical expanse, material resources, economic strength, technological prowess and human resource potential, there are many factors that are in the country's favour. Much has been accomplished in terms of operationalisation of the strategy in capability build-up as well as in institutionalisation of the political and military command and control. Unfortunately, not enough has been disclosed. And this has led to a sense of lack of reassurance at home and assumption of lack of resolve to act across the borders. Therefore, this is the area that should be the focus of the government of the day. The doctrine of counter-strike meanwhile is a wise one and does not need to be altered. As Jasjit Singh wrote, "We will need to shape our strategy in such a way that as far as possible, nuclear weapons don't come into play to affect our security calculus." The Indian nuclear doctrine that establishes a unique brand of nuclear deterrence does its best to ensure such an eventuality.