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## Issue Brief

# PAKISTAN'S TACTICAL NUCLEAR WARHEADS AND INDIA'S NUCLEAR DOCTRINE

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## Summary

This brief analyses the efficacy of tactical nuclear warheads (TNWs) as weapons of warfighting. It examines the likely impact of its use by Pakistan on the columns of the Indian Army advancing across the IB and, consequently, on India's nuclear doctrine. The advocacy by Pakistani analysts of the Indian disinclination to retaliate massively in response to their use of TNWs on their own soil indicates either a flawed analysis or a bluff that the Indian armed forces would be inclined to call.

In an endeavour to preserve strategic stability, India, a reluctant nuclear power, has demonstrated immense restraint despite grave incitement from Pakistan. In stark contrast, ever since it became a nuclear-armed state, Pakistan's behaviour has been marked by brinkmanship, with provocation bordering on actions that could lead to large-scale conventional conflict with nuclear overtones. Recent developments in Pakistan's nuclear arsenal have been of the same destabilising pattern.

As part of its quest for 'full spectrum deterrence', Pakistan has developed the Hatf-9 (Nasr) short-range ballistic missile (SRBM). Pakistan claims the Hatf-9 is equipped with a tactical nuclear warhead (TNW) and is intended for battlefield use as a weapon of warfighting. The Pakistan Army appears to believe that a few TNWs can stop the advance of Indian forces across the International Boundary (IB) into Pakistan. By employing TNWs on the battlefield, the Pakistan Army hopes to checkmate India's 'Proactive Offensive Operations' doctrine, which is colloquially called the 'Cold Start' doctrine.

This brief analyses the efficacy of TNWs as weapons of warfighting. It examines the likely impact of its use by Pakistan on the columns of the Indian Army advancing across the IB and, consequently, on India's nuclear doctrine.

### **Major Shortcomings of TNWs**

The term TNW is a misnomer as the employment of nuclear weapons on the battlefield will have a strategic impact and geo-strategic repercussions. A more appropriate term for these low-yield short-range weapons would be 'nuclear weapons designed for battlefield use'. As a class of weapons, TNWs are extremely costly and complex to manufacture and also difficult to transport, store and maintain under field conditions due to their intricate electronic components. As missiles capped with TNWs may be required to be fired at short notice, the nuclear warheads have to be kept in a fully assembled state and 'mated' with the missile. Due to the short range of SRBMs – Hatf-9 has a maximum range of 60 km – the authority to fire has to be delegated at an early stage in the battle.

These two factors lead to the dilution of centralised control and create a proclivity to 'use them or lose them'. TNWs are also vulnerable to battlefield accidents and are susceptible to unauthorised use, or what Henry Kissinger had called the 'Mad Major Syndrome'. SRBMs are normally dual-use missiles and, as these have to be forward deployed because of their short range, they are likely to be targeted during war with conventional missiles, by fighter-ground attack (FGA) aircraft on search-and-destroy missions and, in the case

of Hatf-9, by long-range artillery. This could lead in rare cases to sympathetic detonation of a nuclear warhead resulting in unintended consequences, especially if one-point safety capability is not the norm. Together, all of these disadvantages lower the threshold of nuclear use and make TNWs a dangerous class of weapons.

While the Nasr SRBM is technically capable of being capped with a nuclear warhead, whether this has actually been done is not known in the public domain. The warhead is likely to be based on a linear implosion plutonium design and is likely to have been cold tested. Pakistan's plutonium stocks are limited. The four Khushab reactors can together produce plutonium that is sufficient for only 10-12 nuclear warheads per year. Considering the low level of damage that TNWs cause, the decision on how much of the plutonium stock should be allocated for TNWs vis-à-vis strategic warheads would be a difficult one to make. Hence, it maybe deduced that Pakistan is unlikely to have a large stockpile of TNWs in its nuclear arsenal.

As evident from the experience of the NATO-Warsaw Pact of the Cold War, the term 'limited nuclear exchanges' is an oxymoron. Nuclear exchanges cannot be kept limited and are guaranteed to escalate rapidly to full-fledged nuclear war with strategic warheads designed to destroy large cities and cause hundreds of thousands of casualties. Hence, India has very correctly refrained from adding the TNW class of weapons to its nuclear arsenal. As TNWs lower the nuclear threshold and are, therefore, inherently destabilising, it is necessary that international pressure be brought to bear on Pakistan to eliminate these weapons from its nuclear arsenal.

## **Strategic Stability**

Strategic stability is a product of deterrence stability, crisis stability and arms race stability in the context of a hostile political relationship between two nations. In the South Asian context, the hostile political relationship stems from the unresolved territorial dispute over Jammu and Kashmir (J&K) with an active Line of Control (LoC). The state of strategic stability in South Asia has for long been a cause of concern for the international community. Pakistan's proxy war against India is now in its third decade despite several peace overtures made by India. Waged primarily by Pakistan's 'deep state' – the Pakistan Army and the Inter-Services Intelligence (ISI) – through terrorist organisations like the Lashkar-e-Taiba (LeT), the Jaish-e Mohammad (JeM) and the Hizbul Mujahideen (HM), it is showing no signs of tapering off. In fact, the unrest in Kashmir Valley in the summer of

2016, terrorist strikes at Udhampur, Gurdaspur, Pathankot and Pampore and the interception of infiltration attempts across the LoC once again indicate an increase in the intensity of the proxy war.

Despite grave provocation, including the terrorist strikes at Mumbai in November 2008, India has shown immense strategic restraint and has limited its counter-insurgency operations on its own side of the LoC in J&K. Another 'major' terrorist strike sponsored by the Pakistani 'deep state' – on a sensitive target, causing large-scale casualties and extensive damage to critical military or civilian infrastructure – is likely to result in Indian military retaliation against the Pakistan Army and its organs with a view to raise the cost of waging a proxy war.

Pakistan's 'first use' doctrine, quest for 'full spectrum deterrence', development of TNWs as weapons of warfighting, army's control over nuclear decision making and the risk of nuclear weapons falling into the hands of the jihadis are all potential threats to regional stability. Pakistan views India's 'Cold Start' doctrine as being de-stabilising. Overall, the state of relations between the two countries may be described as 'ugly stability', a term coined by Ashley Tellis in the mid-1990s. It is at best a tenuous stability that could evaporate very quickly in the face of a prolonged crisis.

## **Possibility of Limited War**

As per the Indian conventional wisdom, there is space for limited war below the nuclear threshold. Though Indian military retaliation to a major terrorist strike would be carefully calibrated to avoid threatening Pakistan's nuclear red lines, under certain circumstances the exchanges could escalate into a war in the plains. For example, Pakistan may launch pre-emptive offensive operations across the IB, including strikes on Indian air bases or naval assets. Such a response from Pakistan will force India to launch counter-offensive operations with a view to destroying as much as possible of Pakistan's war waging capabilities and, in the process, simultaneously capturing a limited amount of territory as a bargaining counter. The capture of territory is unlikely to be a primary aim as territories captured across the IB will have to be returned.

The Pakistan Army seeks to convince India that it has a low nuclear threshold and that its nuclear red lines are fairly close to the IB. The proximity of nuclear red lines to the IB would vary from sector to sector and would be a matter of careful assessment based on intelligence inputs. In keeping with its behaviour as a responsible nuclear power, India

would like to keep the scale and the intensity of the conflict low so as not to threaten Pakistan's nuclear red lines. However, if Pakistan's defensive operations do not proceed as planned and it perceives the 'space' red line as threatened at one or more places, the Pakistan Army may deem it necessary to use TNWs on its own soil to contest India's offensive operations, in keeping with its clearly stated intention to do so.

Pakistani analysts (senior retired armed forces officers as well as diplomats and academics) appear convinced that no Indian prime minister will authorise massive retaliation with nuclear weapons if Pakistan uses 'a few' TNWs against Indian forces on its own soil – on the grounds that such use does not constitute 'first use' for India. Presumably, a similar belief is held by Pakistan's senior commanders who are in positions of authority in the nuclear chain of command. Such a belief, though falsely held, lowers the threshold of use of nuclear warheads as weapons of warfighting. Also, though such a belief questions the credibility of India's doctrine of massive retaliation, it does not address the issue of the consequences that Pakistan will suffer in a contingency where the Indian prime minister, heading the Political Council of the Nuclear Command Authority (NCA), actually approves massive retaliation. Deterrence is ultimately a mind game.

### **Efficacy of TNWs as Weapons of Warfighting**

Given the low casualty rates and minimal material damage if TNWs are employed on the battlefield against mechanised forces, the Pakistan Army's faith in their ability to bring Indian offensive operations to a grinding halt is questionable. Simple calculations on the efficacy of TNWs against a mechanised combat group (roughly comprising an armoured regiment and a company of mechanised infantry) advancing in desert or semi-desert terrain are revealing. The combat group (60 armoured fighting vehicles – AFVs) would normally advance with two combat teams forward over a frontage of 10-12 km and depth of 8-10 km. In a nuclear, biological and chemical (NBC) environment, AFVs generally move forward in buttoned-down condition (cupolas closed, full NBC protection). A reasonable assumption would be that the civilian population of the sector in which TNWs are intended to be employed would have been evacuated.

If a nuclear warhead of 8-10 kt is detonated over a combat group (low air burst explosion, with the ground zero close to the centre), the initial casualties would be in the range of 20-30 personnel killed or wounded and 10-12 AFVs destroyed or damaged. While the leading combat group would need to regroup (undertake casualty evacuation, repair and

recovery and decontamination), the reserve combat group of the combat command/armoured brigade could resume the advance in six to eight hours. In the case of an Indian bridge head across a water obstacle being hit, the casualties would be a hundred times greater, but in a bridge head the adversary's troops would be in contact with Indian troops and, hence, a bridge head is a much less likely target.<sup>1</sup>

By employing TNWs against the Indian forces, even if Pakistan does it on its own soil, the Pakistan Army would have broken the nuclear taboo without achieving anything substantive by way of influencing the course of an ongoing military operation. In the process, it would risk the destruction of its major cities and strategic reserves as well as nuclear forces should India choose to retaliate massively. The leadership of the Pakistan Army must also have done these calculations. Therefore, their advocacy of the Indian disinclination to retaliate massively in response to their use of TNWs on their own soil indicates either a flawed analysis or a bluff that the Indian armed forces would be inclined to call.

## Doctrinal Challenges

During a crisis, if deterrence breaks down, the essence of nuclear strategy would lie in minimising civilian and military casualties and material damage and preventing escalation, while ensuring the survival of the state. If Pakistan detonates TNWs on Indian forces on its own soil, the major options available to India are:

- A massive retaliation to inflict unacceptable damage, in keeping with India's stated doctrine. The adoption of this option would very seriously threaten to cripple Pakistan as a functional nation state.
- A flexible response (quid pro quo or quid pro quo plus response) in order to minimise the probability of further nuclear exchanges and keep the level of casualties and destruction as low as possible. For example, in retaliation for the use of two 8-10 kt warheads against the Indian forces on the Pakistani soil, India may employ four or five or even six nuclear warheads to target Pakistan's strategic reserves and nuclear forces, while ensuring that only those forces are attacked which are well away from civilian population centres.

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<sup>1</sup>The template used for working out the casualty figures is United States Field Manual FM 3-3-1. Also, the Hatf-9 warhead is likely to be of a much lower yield than 8-10 kt and would, consequently, cause even lesser damage.

- Refraining from retaliating with nuclear weapons, but warn Pakistan of dire consequences if any more nuclear strikes are launched and increase the scale and the intensity of conventional offensive operations. (This is the least likely option and is not discussed further.)

Once deterrence breaks down, a publicly declared doctrine becomes irrelevant. In such a scenario, the political council of the NCA will have to decide as to how to retaliate based on the advice given by the executive council, of which the three services chiefs are members. The method and the mode of retaliation will be based on the prevailing operational-strategic situation and the likely reactions of the Pakistani armed forces, especially the probability of further nuclear exchanges. The assessment will also include the likely reactions of the international community – the threats held out, the appeals made and the course of the discussions at the United Nations Security Council (UNSC).

India's nuclear doctrine clearly states that "nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere." This debunks the Pakistan Army's belief that its use of TNWs against Indian forces on its own soil will not constitute 'first use'. A widely held belief among members of the Indian strategic community is even if the Pakistan Army employs TNWs against the Indian forces on the Pakistani soil, the most appropriate option will be massive retaliation to inflict unacceptable damage on Pakistan.

Though such a decision will not be made lightly, from the Indian point of view, massive retaliation is the only suitable option as anything else will run the risk of lowering the nuclear threshold and encouraging the Pakistan Army to continue to bank on the early use of TNWs to counter operational reverses. Also, breaking the nuclear taboo would be considered unacceptable and flexible response would run the risk of continued and repeated nuclear strikes. A decision to approve massive retaliation would be far easier to reach in case Pakistan uses TNWs against the Indian forces, but on the Indian soil.

### **Recommendations for Change in India's Nuclear Doctrine**

As 12 years have passed since India's nuclear doctrine was approved by the Cabinet Committee on Security (CCS) in January 2003, and many new developments have since taken place, a review of the doctrine is necessary. In fact, a review should be carried out every 10 years. Recommendations for continuity in some provisions and changes in other provisions of India's nuclear doctrine are given below:

India's nuclear doctrine premised on 'credible minimum deterrence' and posture of 'no first use' has stood the test of time and no change is necessary.

India's declaratory strategy is that of 'massive retaliation' to a nuclear first strike and is 'designed to inflict unacceptable damage'. This was enunciated in the statement issued by the Government of India on January 04, 2003, after the CCS had reviewed the progress in the operationalisation of India's nuclear deterrence.

Ideally, the retaliatory strategy should have been that of 'flexible response' that results in 'punitive retaliation... to inflict unacceptable damage', as envisaged in the Draft Nuclear Doctrine of August 17, 1999, prepared by the first National Security Advisory Board (NSAB) headed by K.Subrahmanyam. However, as the strategy of 'massive retaliation' is a viable deterrence strategy that has served India well, no change is recommended. It would work well even in a contingency where the Pakistani planners may consider using TNWs against the Indian forces on the Pakistani soil as they cannot possibly risk massive Indian retaliation.

The credibility of massive retaliation needs to be enhanced through a carefully formulated signalling plan. Signalling should be based on an elaborate plan designed to showcase the preparedness of India's nuclear forces and the firmness of its political will. For example, information about regular meetings of both the political and the executive council of the NCA should be made public (without disclosing the agenda).

India's nuclear doctrine states that India will retaliate with nuclear weapons in case chemical or biological weapons are used against India. This is neither credible nor desirable as chemical or biological weapons may be used by non-state actors or by a state through proxy non-state actors with easy deniability. In either case, it would not be appropriate to retaliate with nuclear warheads. Hence, this formulation should be dropped from the nuclear doctrine.

Despite its costs and the risk of endangering arms race stability, ballistic missile defence (BMD) provides major advantages to a nation that follows a 'no first use' strategy. The government should consider sanctioning a phased BMD project to protect major cities and strategic forces

As TNWs are extremely destabilising, Indian diplomacy should ensure that international pressure is brought to bear on Pakistan to eliminate TNWs from its nuclear arsenal. A sustained campaign needs to be mounted by strategic analysts, scholars and academics to apprise the policy community and the public of the risks associated with TNWs.

It is in India's interest to discuss nuclear confidence building measures (CBMs) and nuclear risk reduction measures (NRRMs) with Pakistan in greater depth than has been the case till now. Back channel diplomacy can also play a useful role in promoting confidence and reducing the risk of inadvertent escalation to nuclear exchanges.

## About the Authors

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