

# **Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's Stabilisation-Destabilisation Dilemma**

*Ghazala Yasmin Jalil\**

## **Abstract**

*Pakistan's testing of the nuclear-capable tactical ballistic missile 'Nasr' and its India's counterpart 'Prahaar' has renewed a debate on deterrence stability in South Asia. The introduction of tactical nuclear weapons (TNW) by Pakistan is a result of heightened threat perceptions resulting from India's development of ballistic missile defence (BMD), its pursuit of the aggressive limited war doctrine Cold Start, and Pakistan's growing conventional military imbalance with India. The pursuit of TNW presents a stabilisation-destabilisation dilemma for Pakistan. While demonstration of TNW capability may be stabilising for Pakistan, since it aims to deter India from pursuing limited war, the actual deployment and use of the weapons in the battlefield is destabilising, since it presents a host of problems such as dangers of pre-emption, complicated command and control, risk of advertent and inadvertent use, and issues of escalation control, which make deterrence highly unstable. The paper argues that one way out of this stabilisation-destabilisation dilemma may be to deploy a limited number of weapons for signalling or warning to India, instead of opting for large-scale battlefield deployment, which has the potential of escalation to an all-out war.*

## **Introduction**

Pakistan's testing of nuclear-capable short-range ballistic missile (60 km range) Nasr on 19 April, 2011 has renewed the debate on India-Pakistan nuclear deterrence and strategic stability. Although India's limited war doctrine Cold Start is widely believed to have triggered the development of tactical nuclear weapons (TNW) by Pakistan, it needs to be understood in the wider context of India-Pakistan nuclear and conventional weapons balance. The introduction of tactical nuclear weapons by Pakistan, and perhaps by India<sup>1</sup>, is a new development fraught with its own issues and dangers. However, it is a development within a chain of events, which necessitates an examination of the South Asian security dilemma that is driving the security competition between India and Pakistan.

---

\* Ghazala Yasmin Jalil is a Research Fellow at the Institute of Strategic Studies, Islamabad.

It is imperative to study this new development in order to determine why Pakistan or India felt the necessity to develop TNW; what kind of doctrinal changes would accompany the induction of these weapons; how it would potentially stabilise or destabilise deterrence; and how it would affect Pakistan's security in particular.

The literature on the subject assesses the impact of TNW on deterrence stability, with some arguing that it would impact deterrence negatively<sup>2</sup> in South Asia, and others arguing that it would not.<sup>3</sup> However, none of the studies embeds the development of TNW into the context of a wider security competition between India and Pakistan. The present study aims to fill this gap. The paper looks at new weapons systems like TNW and their impact on deterrence stability in South Asia. Moreover, the study uses the rational deterrence theory to examine TNW's impact on deterrence stability, an analysis that is absent in the existing literature on South Asia.

The paper is divided into three parts. The first part looks at the actual development of TNW by India and Pakistan, and the technical issues that this entails. The second part of the paper addresses the question of why Pakistan felt the need to develop TNW. The theory of security dilemma is used here to understand the security competition between India and Pakistan, and the ensuing right to the development of TNW. The third part assesses the impact of TNW on deterrence stability, keeping in view the rational deterrence model. It also discusses the doctrinal, employment and deployment issues, and how they impact deterrence stability.

The basic argument made in the paper is that TNW present a stabilisation-destabilisation dilemma for Pakistan, whereby they are stabilising in the non-deployed form but destabilising in deployed form, if it comes to war-fighting in the battlefield. Therefore, in the long run, large-scale battlefield deployment of TNW disturbs deterrence stability, necessitating doctrinal adjustments and the development of counter weapons systems or force postures. Furthermore, the paper suggests that the way out of such a stabilisation-destabilisation dilemma may be limited TNW deployments as a symbolic warning to India, as well as to lend credibility to the deterrent. However, in the long run, the security competition between India and Pakistan, and the resulting arms race which drives the development of weapons such as TNW, is destabilising for deterrence. There is a need to ease the security dilemma between India and Pakistan in order to promote deterrence and strategic stability.

## **Theoretical Framework**

The theoretical debate surrounding TNW goes back to the Cold War era, when the US and the Soviet Union deployed these weapons against each other. This was the first instance when the two superpowers deployed weapons other than strategic nuclear ones against one other. The US mainly deployed TNW as a symbol of its commitment to Europe, as well as a force equaliser against the Soviet conventional superiority in the European realm. Therefore, TNW came to be seen as conventional force equalisers against the Soviet Union.<sup>4</sup> In the US and NATO doctrine, they served as a rung between conventional usage and strategic nuclear weapon usage in the escalation ladder, thus lending them a deterrent role.<sup>5</sup> Since the US could not resort to the use of strategic nuclear weapons if its forces were being conventionally defeated, the security planners came up with the low-yield and shorter range nuclear weapons to use if defeat by the Soviet conventional forces became imminent. It thus allowed a 'flexible response' to decision makers.

However, issues of command and control complicated the deployment of TNW. Also, there remained huge question marks against the utility and efficacy of TNW. Although the two adversaries deployed thousands of TNW at the height of Cold War, the policy-making circles and the academic debate remained dubious of its utility, and the two countries diminished the role of TNW in their arsenals so much that today, the US only deploys about 200 weapons in Europe, compared to over 7000 at the height of Cold War<sup>6</sup>. David Smith surveys the US history of TNW and concludes that: "despite 15 years of efforts, the US military failed to develop a coherent doctrine for the use of TNW or to devise a workable force structure to employ them."<sup>7</sup> Similarly, Colin Gray and Phillip Dyer also assert that there is an absence of consensus on any function or deployment of TNW in Europe.<sup>8</sup> Smith concludes that there is a consensus among US and NATO analysts that TNW do not belong to the modern battlefield because they add little to the deterrence, invite pre-emption, complicate command and control, are inherently prone to escalation, and therefore, are not decisive in the battlefield.<sup>9</sup> At the same time, it must be kept in mind that war did not break out in Europe during the Cold War. Whether this was due to the deterrent effects of TNW, strategic nuclear weapons, or other factors is very much open to debate.

This theoretical debate is very relevant and applicable to the South Asian arena. The Cold War environment was quite different from the South Asian one, especially since the adversaries were not physically proximate. This fact makes TNW in the South Asian environment even more dangerous than they were in the Cold War era. Pakistan remains conventionally inferior to India and sees TNW as

a force equaliser. Also, it envisages TNW as a rung in the escalation ladder between conventional force and strategic nuclear weapons, based on a precedential paradigm. Moreover, issues of command and control, deployment and efficacy of TNW, and their effects on deterrence remain very much relevant to the South Asian context and will be discussed at length in the later sections of the paper.

The paper also looks at the linkage between TNW and nuclear deterrence stability. It uses the rational deterrence theory to assess the impact of TNW on deterrence stability. The rational deterrence theory<sup>10</sup> is essentially closely aligned with realism, and assumes that a balance of power<sup>11</sup> between the rival groups and high costs of war bring peace.<sup>12</sup> Since nuclear weapons make the cost of war very high, it makes war irrational and thus nuclear deterrence is assumed to be stable. Rational deterrence theory postulates that, “in order to deter attacks, a state must persuade potential attackers that: 1) it has effective military capability, 2) that it could impose unacceptable costs on an attacker, and 3) that the threat would be carried out if attacked.”<sup>13</sup> The theory rests on the assumption of rationality, on the threat of unacceptable damage, and credibility. It essentially necessitates both having the capability to deter, and credibility or communicating the threat and the political will to use the weapon. Capability is having nuclear weapons and the appropriate delivery systems. Credibility is a more slippery term, where results depend on communicating the threat of use to the adversary, as well as how credible the latter deems the threat. Thus, rational deterrence is a function of capability and credibility or:

$$\text{Deterrence} = \text{Capability} \times \text{Credibility}$$

Thus, the paper employs this formulation to assess stability or instability of nuclear deterrence in the South Asian context.

The paper employs the single case study method. The objective of the paper is the development of a historical explanation of major nuclear weapons technologies like TNW. The paper envisages TNW as the independent variable, and deterrence stability as the dependent variable. It seeks to assess the causal relationship between TNW and deterrence stability, using the assumptions of rational deterrence theory. For the requisite information, the paper relies on primary sources like official documents and statements, as well as secondary sources like newspapers, journal articles, books and reports. The paper also relies on elite interviews from primarily Pakistani experts on the case of South Asian nuclear deterrence.

## **Tactical Nuclear Weapons – Nasr and Prahaar**

Tactical nuclear weapons have arrived in South Asia, unfortunately, without a true understanding of the nature of these weapons. There are a number of issues regarding TNW that need to be examined. Firstly, there are definitional issues that need examination, as to what is a tactical nuclear weapon and what it means in this particular South Asian context. Secondly, there is a need to examine both Nasr and Prahaar and understand the technical implications of the weapons.

There is a blurring of the distinction in the terms ‘strategic’ and ‘tactical’ nuclear weapon in the South Asian context. The term ‘short range ballistic missiles’ was primarily used in the superpowers’ context during the Cold War, where they were distinguished from medium- and long-range ballistic missiles, and deployed in the proxy battleground of Europe away from mainland Soviet Union or the US. The term ‘tactical’ may signify shorter missile range and lower nuclear yield, and size. In the South Asian context, the tactical and strategic weapons’ distinctions of the Cold War environment are irrelevant in practice, since India and Pakistan share a border. The flight times of ballistic missiles or aircrafts targeting the adversaries’ cities and military assets are five minutes or less. Moreover, even low-yield weapons would have a fall-out on the user’s own troops or populations that live close to the border. Both Prahaar and Nasr can, in theory, be deployed for counter-force purposes to target the adversary’s population centres. Therefore, even tactical weapons would have strategic effects in South Asia. Brig (R) Feroz Khan asserts that “A weapon that has a nuclear warhead is strategic in nature, regardless of range. But if it is employed for tactical battlefield use, it is dubbed Tactical Nuclear Weapon.”<sup>14</sup> Similarly Brig (R) Naeem Salik writes: “Nuclear weapons, irrespective of their size, are qualitatively different from conventional weapons. In particular, the long lasting impact of nuclear explosion in the form of contamination caused by nuclear radiation differentiates it from any conventional bomb.”<sup>15</sup> Air Commodore Khalid Banuri termed the weapon as short-range-low-yield nuclear weapon rather than TNW.<sup>16</sup> Thus, TNW signify shorter range, low-yield weapons that can be deployed in a tactical manner, for battlefield war-fighting. However, the paper argues that in the South Asian context, their significance is strategic in nature since they present a problem of escalation control.

Pakistan announced the first test flight of its short-range missile Nasr (Hatf IX) on April 19, 2011. The ISPR press release termed it “a short range surface to surface multi tube ballistic missile...with a range of 60 km, carried nuclear warheads of appropriate yield with high accuracy, shoot and scoot attributes”.<sup>17</sup> It further stated that the missile has been developed to add deterrence value to

Pakistan's strategic weapons development programme at short ranges. The system addresses the "need to deter evolving threat." The last statement is telling in that it indicates how Nasr was developed in response to a comparatively recent threat. There is a general consensus in the academic and policy-making world that the tactical missile was developed in response to India's Cold Start doctrine, in addition to other factors.

There are a number of technical implications in the testing of Nasr. Firstly, it implies that Pakistan has been able to miniaturise nuclear warhead of a diameter just under 12 inches. Rodney Jones offers an analysis: "This system is probably a four-tube adaptation of a Chinese-design multiple rocket launcher (MRL), possibly the A-100 type, on an eight-wheeler truck, capable of carrying four, ready-to-fire 20-foot ballistic missiles of about 300mm (11.8 inch) diameter."<sup>18</sup> Secondly, the shoot-and-scoot attributes mean that the system is capable of firing and quickly moving away to avoid counter-targeting which would be conducive to the weapon's survivability. Thirdly, a later test of Nasr claimed that it has been "specially designed to defeat all known Anti Tactical Missile systems."<sup>19</sup> Chris Clary's remarks confirm this: "The speed and low apogee of the Nasr would make it difficult for any terminal BMD to intercept."<sup>20</sup> This also means that interception by a missile defence system is a major concern on the part of Pakistan. If Nasr does indeed possess the ability to defeat missile defence systems,<sup>21</sup> it increases the weapon's credibility.

Indians' test of their tactical surface-to-surface missile, Prahaar, followed just two months after the test of Nasr on July 21, 2011. According to the Defence Research and Development Organisation (DRDO), the missile which "is capable of carrying different types of warheads, will operate as battlefield support system for Indian Army."<sup>22</sup> The missile has a 150 km range and 200 kg payload. It is launched from a road mobile system, which can carry six missiles at a time and fire them in different directions. DRDO Director General Minister V.K. Saraswat said that the missile "will bridge the gap between the multi-barrel rocket system, Pinaka (unguided with 45 km range), and the Prithvi missiles (250 to 350 km range)."<sup>23</sup>

There are a number of implications of the Indian test also. Firstly, India conducted the test two months after the testing of Nasr, but it was not in reaction to the latter. The DRDO newsletter specified that the organisation had been developing it for two years. Secondly, the DRDO statement did not specifically say whether the missile was nuclear-capable, but left matters vague by saying "it is capable of carrying different types of warheads", as opposed to Pakistan, which specifically announced that its missile will carry nuclear warheads.

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

However, the timing of the test- just months after the Pakistani test- indicates that the missile will be used for non-conventional warheads. Also, it is not cost-effective to develop guided missiles for conventional warheads when rockets can do a similar job in the battlefield. Thirdly, the Indian Artillery Director General Lt. Gen. Vinod Nayanar was specifically mentioned as attending the testing of Prahaar. According to one assessment, this implies that Prahaar may be inducted into the Indian army's field artillery formations. This "opens up the inherently risky proposition of this weapon system's control falling into the hands of junior commanders, delegative command and control, and associated risks of inadvertent or unauthorised use".<sup>24</sup>

Both Pakistan and India have tested short-range nuclear-capable ballistic missiles. However, what is the likelihood that these weapons will be mass-produced and actually deployed in the battlefield? It would depend on a number of things such as the political and strategic decision, their deterrence value, cost effectiveness, and technological path-dependency. According to one estimate, it may take upto seven years to induct Nasr and Prahaar, taking into account the timeline of induction of similar ballistic missiles in the past.<sup>25</sup> Therefore, the TNW can be expected to be deployed around 2018 if the political decision is taken.

Now that Pakistan, and perhaps India, seem poised to embark on the path to tactical nuclear weapons development, it is important to determine what led Pakistan to pursue TNW.

### **South Asian Security Competition**

This part of the paper looks at the question- why did Pakistan feel the need to develop TNW? It uses the theory of security dilemma to briefly trace the action-reaction dynamic or the security interdependence between India and Pakistan. The nuclear, missile, and conventional competition between India and Pakistan is already well-documented. Therefore, this section focuses on two developments in the last decade that heightened Pakistan's threat perceptions and led to its development of TNW – first, India's development of ballistic missile defence, and second but more importantly, India's pursuit of the limited war doctrine - Cold Start.

#### **South Asian Security Dilemma**

The theory of security dilemma holds that in an anarchic international environment, states' efforts to acquire power to secure themselves renders others

more insecure. A vicious cycle of security and power-accumulation ensues.<sup>26</sup> Military build-ups and arms races are characteristic of security dilemmas. The development of nuclear weapons and missiles is a manifestation of the security dilemma. In many ways, India and Pakistan provide a classic case of such a security dilemma. However, Pakistan being the conventionally, strategically and economically inferior adversary, feels the brunt of this conundrum much more severely than India does.

### History of Security Competition

Ever since their inception, both India and Pakistan have perceived a threat from each other and have been embroiled in a security competition that manifests itself in both the nuclear and the conventional fields. The two South Asian rivals have fought three wars and have come eyeball-to-eyeball on several occasions. Pakistan developed its nuclear weapons programme when it realised the trajectory India's nuclear programme was taking. Failure of external balancing was also a major cause for the Pakistani quest for nuclear deterrence. It was endorsed by a realisation on Pakistan's part that it could not hope to overcome the conventional asymmetry with India. Pakistan tries to keep a conventional balance with India that denies the latter a decisive victory. According to one expert, Pakistan's conventional balance with India is 1:3 in military, 1:4.7 in navy and 1:3.7 in air force.<sup>27</sup> This is a huge asymmetry, and also one of the reasons why Pakistan has come to rely more and more on its nuclear weapons. The conventional asymmetry is also directly related to Pakistan's development of TNW. Pakistan sees its nuclear weapons as force equalisers and TNW as bolstering its conventional defence, and as a rung in the escalation ladder.

The security competition also manifests itself in the race for development and acquisition of delivery systems. India has a nuclear doctrine that envisages a triad of nuclear forces. Pakistan has also made efforts to develop sea-based delivery systems, in addition to the land and air delivery systems it already has. The long-term goal of both India and Pakistan is to develop a second strike capability, in order to have an assured nuclear deterrence capability.



*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

*Indian Nuclear Delivery Systems*

<b>Type</b>	<b>Range (km)</b>	<b>Payload</b>	<b>Status</b>
<b><i>Aircraft</i></b>			
Mirage 2000H Vajra	1850	6300	For delivery of nuclear gravity bombs
<b><i>Land-Based Ballistic Missiles</i></b>			
Prahaar	150	200	Tested, possibly conventional and nuclear capable
Prithvi I/II	150/350	800/500	Prithvi I reportedly nuclear capable, In service since 1994. Prithvi II reportedly nuclear capable, deployed
Agni I	700	1000	Deployed with Indian Army's 334 Missile Group
Agni II	2000	1000	Deployed with Army's 555 Missile Group
Agni III	3000	1500	Inducted into service but not fully operational
Agni IV	4000	1000	Under development
Agni V	>5000	1000	Under development
<b><i>Sea-Based Missiles</i></b>			
Dhanush	350	500	Induction underway but probably not operational, tested on Oct 5 2012
K-15 (Sagarika)	700	500-600	Under development, final test Jan 27, 2013 integrated with submarine INS Arihant

**Source:** SIPRI Yearbook 2013, Armaments, Disarmaments and International security (Oxford University Press, 2013), 312.

*Pakistan Nuclear Delivery Systems*

Type	Range (km)	Payload	Status
<b><i>Aircraft</i></b>			
F-16A/B	1600	4500	Undergoing mid-life upgrades, to be completed in 2014
Mirage V	2100	4000	Used to test launch Ra'ad, possibly nuclear capable
<b><i>Land-Based Ballistic Missiles</i></b>			
Abdali (Hatf-2)	180	200-400	Under development, test launched on 5 and 11 Mar, 2002
Ghaznavi (Hatf-3)	290	500	Entered service with Army in 2004
Shaheen I (Hatf-4)	650	750-1000	Entered service with Army in 2003
Ghauri (Hatf-5)	>1200	700-1000	Entered service with Army in 2004
Shaheen II (Hatf-6)	2500	1000	Under development, last tested Apr 21, 2008
Nasr (Hatf-9)	60		Under development, last test May 29, 2012
<b><i>Cruise Missiles</i></b>			
Babur (Hatf-7)	600	400-500	Under development. Tested on Sep 17, 2012, initially land-based but reportedly air- and sea-based versions under development
Ra'ad (Hatf-8)	350		Under development, air launched, last test May 31, 2012

**Source:** SIPRI Yearbook 2013, Armaments, Disarmaments and International security (Oxford University Press, 2013), 318.

Two developments on the Indian side have been instrumental in further heightening Pakistan's threat perceptions and had the cumulative effect of the latter choosing to develop TNW. These are India's development of ballistic missile defence, and India's pursuit of the limited war doctrine Cold Start.

### Development of Ballistic Missile Defence

India is developing a ballistic missile defence (BMD) system since 1998. It consists of multilayered defence against incoming ballistic missiles, composed of two systems – the Prithvi Air Defence (PAD) for high-altitude interception (50km-80km) and Advanced Air Defence (AAD) missile for low-altitude (15km-30km) interception.<sup>28</sup> In 2012, DRDO chief V.K. Saraswat announced that the system was ready to protect two Indian cities.<sup>29</sup>

Islamabad views India's missile defence plans with great concern. Although the missile defence shield is limited to two cities at present, India has plans to develop a much more extensive system. A partial or extensive missile defence would disturb nuclear deterrence between the two countries, since the very basis of deterrence is the vulnerability of both sides to attack from each other. With a missile defence system in place, India would theoretically be confident in launching a nuclear attack without the fear of reprisal. However, some experts have argued that such BMD systems would not really affect Pakistan's operational deterrent capability, since it is not effective against cruise missiles<sup>30</sup> and only marginally effective against ballistic missiles armed with counter-measures. This may partially be true, but India's pursuit of BMD has nonetheless heightened Pakistan's threat perceptions. Even if India's BMD does not provide extensive coverage at present, it may produce a false sense of security, making the Indian political and military elite act with much more aggression in a crisis. It would, thereby, be destabilising for nuclear deterrence.

Pakistan has responded by diversifying its delivery systems and their accuracy, and developing cruise missiles in order to defeat and saturate a limited BMD system like India's. This is also one reason why Pakistan's fissile material production and missile inventory is increasing. Islamabad's development of TNW is also partially in response to India's missile defence plans. This is evident from Pakistan's announcement of the later test of Nasr, which claimed that it is specially designed to defeat all known Anti Tactical Missile systems.<sup>31</sup> The foreign office spokesperson's comments endorse this: "Pakistan's short range missiles... are meant to address 3 major concerns emanating from India. These include increasing conventional weapons' asymmetry; India's offensive doctrine; and development of ballistic missile system...development of Nasr and Cruise missiles by Pakistan should be seen in this context."<sup>32</sup> This confirms that the development of TNW and cruise missiles is in response to the threat emanating from India.

There is plenty of evidence in the literature as well on the linkage between India's BMD threat and Pakistan's development of TNW. One analyst writes: "Pakistan intends to develop and employ TNW in reaction to the adversary's Cold Start doctrine (CSD), India's plans for a ballistic missile defence system."<sup>33</sup> Zahir Kazmi also draws the linkage that India's pursuit of BMD would destabilise the region and may force Pakistan to rely heavily on TNW. He also asserts that: "Even a basic BMD capability may encourage a first strike and pre-emptory tendency in Indian thinking."<sup>34</sup> A similar conclusion can be drawn from US-led BMD shield in Europe, which has forced Russia to rely more on Short-Range Ballistic Missiles (SRBM).<sup>35</sup> In sum, while BMD systems, tactical or strategic, may not be fully operational or effective against TNW, but they are an issue of concern and contention between the US and Russia, as well as India and Pakistan. It is concerning enough for Pakistan to seek counter-measures. This again endorses the security interdependence of India and Pakistan, and perpetuates and fuels the arms race between the South Asian rivals.

### Cold Start

Cold Start is perhaps the most compelling reason that led Pakistan to pursue TNW. India revealed its Cold Start doctrine in April 2004, which presents a break from the defensive doctrine it employed since 1947. It is essentially based on the concept of pre-emption and envisages the reorganisation of Indian army's offensive power from three large strike corps into eight smaller integrated battle groups (IBGs) comprising elements of the army, air force and, if required, navy, to be able to launch surgical strikes into Pakistan. The emphasis of this new limited war-fighting doctrine is on the speed of deployment and operations. Its goal is to establish a capability to launch a retaliatory conventional strike against Pakistan before international community can intervene and also fight conventional limited war under Pakistan's nuclear threshold.<sup>36</sup> The doctrine explicitly seeks to confuse Pakistani forces and its decision-making cycle.<sup>37</sup> It was developed after the failure of Operation Parakram, in the wake of the 2001 terrorist attacks on Indian parliament, for which India blamed Pakistan-based terrorist groups.

Cold Start is a result of India's belief that terrorist attacks in India are proxies of Pakistani state policy, and that it must respond conventionally to punish Pakistan. It aims to provide more policy options to Indian political leadership between doing nothing and provoking a full-scale war or crossing the nuclear threshold. It is also India's response to Kargil, where Pakistan initiated and fought a limited war that Delhi did not see coming. However, the doctrine is faulty since Kargil was confined to a limited area, and Cold Start envisages

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

crossing the international border at multiple points, if necessary. It is also faulty because fighting a limited war between geographically adjacent nuclear-capable neighbours is highly risky due to advertent and inadvertent escalation. India thus runs into a dilemma of escalation control and crosses the nuclear threshold that is not clearly defined in case of Pakistan.

The doctrine was considered aggressive and threatening by Islamabad, and elicited a severe reaction. A number of statements at the official level indicate Pakistan's heightened threat perceptions and the resolve to respond. The Nuclear Command Authority (NCA) took note: "Massive inductions of advanced weapon systems, including installation of ABMs, build-up of nuclear arsenal and delivery systems through ongoing and new programmes... offensive doctrines like Cold Start and similar accumulations in the conventional realm, tend to destabilise the regional balance".<sup>38</sup> The former Chief of Army Staff (COAS) General Ashfaq Parvez Kayani, referring to Cold Start, warned that its consequences could be both "unintended and uncontrollable."<sup>39</sup> In light of the conventional asymmetry between Pakistan and India, the lack of strategic depth and other vulnerabilities, India's notion of limited war amounts to a total war for Pakistan.

Pakistan has responded in a number of ways. Firstly, Pakistan has conducted exercises called Azm-e-Nau; the army adopted a new concept of war-fighting aimed at pre-empting India's Cold Start doctrine by improving mobilisation time and putting up a joint army, navy and air force response to a conventional threat.<sup>40</sup> Secondly, Pakistan has developed TNW in order to redress the instability introduced by the Cold Start. From the point of view of Pakistani decision makers, this may be the most effective way of countering India's plans for limited war. Pakistani forces are already deployed on Eastern and Western borders,<sup>41</sup> Pakistan can ill-afford to take on India's aggressive plans with conventional forces. It leaves Pakistan relying heavily on a combination of conventional capabilities and TNW. Feroz Khan quotes Pakistan's security managers as expressing the rationale for TNW: "Nasr, therefore, restores 'the strategic balance by closing the gap at the operational and tactical level'... 'Nasr pours cold water to Cold Start... thus this is a weapon of peace. It restores the balance; it should convince India to think long before deciding to attack.'"<sup>42</sup> Pakistan's security planners further claim that it is a purely defensive weapon, meant to strengthen conventional deterrence and deter the attacking forces at the tactical level.<sup>43</sup> On the other hand, India is unhappy with Pakistan's development of TNW and the potential for the weapons to neutralise its limited war doctrine.

In sum, India and Pakistan are embroiled in a security competition that shapes the strategic environment of South Asia while also driving their nuclear

and conventional programmes. India, as an emerging regional power, has ambitions of a regional and global power and that reflects in its nuclear and conventional programmes, while Pakistan has an India-centric security policy. Therefore, the latter constantly tries to maintain a strategic balance in both the conventional as well as nuclear realms. A disconnect between India's global ambitions and Pakistan's regional security outlook is also the driver of the region's arms race. Of special significance in exacerbating Pakistan's threat perceptions is the rapid chain of events in the last decade from India's conventional build-ups, from its pursuit of the Cold Start doctrine, to the development of ballistic missile defence. This has elicited response from Pakistan in terms of greater number of nuclear warheads, doctrinal changes in order to counter Cold Start and the development of TNW, thereby reinforcing the action-reaction pattern between the two South Asian rivals.

### **Tactical Nuclear Weapons and Deterrence Stability**

This section relies on the assumptions of rational deterrence theory to assess the impact of TNW on deterrence stability. The theory sees deterrence as a function of capability and credibility or:  $\text{Deterrence} = \text{Capability} \times \text{Credibility}$ . In its simplest form, nuclear deterrence is the absence of nuclear war. In the context of South Asia, anything that increases the likelihood of a nuclear war breaking out would be considered destabilising for deterrence. The introduction of TNW in Pakistani arsenal may present a deterrence stabilisation-destabilisation dilemma.

#### **Deterrence Stability**

From a Pakistani perspective, developing TNW and demonstrating the capability is stabilising for deterrence. Introduction of TNW is Pakistan's effort to counter-balance the instability introduced by the Cold Start doctrine in South Asian deterrence. According to one expert, TNW are a result of Pakistan's threat perceptions which have roots in three developments – the Cold Start doctrine, Indo-US nuclear deal, and the development of ballistic missile defence.<sup>44</sup> This is also a manifestation of Pakistan's security dilemma vis-à-vis India and the action-reaction pattern that we examined in the previous section.

This is also consistent with the stability-instability paradox, which postulates that while nuclear weapons may reduce the likelihood of general war between two adversaries, it increases the likelihood of low-level conflict.<sup>45</sup> Pakistan could not use strategic nuclear weapons in response to low-level conflict; neither could it afford to fight a conventionally-superior India. This created a gap in its

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

deterrence. The development of TNW aims to plug that hole. This is apparent from Strategic Plans Division Director General Lt. Gen. (R) Khalid Kidwai's statement that accompanied the announcement of Nasr test, saying it "will consolidate Pakistan's deterrence at all levels of threat spectrum."<sup>46</sup> In the same statement, Kidwai termed the Nasr missiles a weapon of peace. Thus, Pakistan's official stance seems to be that by testing Nasr, the country has demonstrated the capability. India, being a rational state, has to take this into consideration, and should stabilise deterrence. From the official and unofficial statements<sup>47</sup> coming out of Pakistan it can be analysed that by introducing TNW, Islamabad hopes to raise the costs of war to such an unacceptable level that it would deter India from initiating limited war, and it would not ever come to actual deployment in the battlefield. This rationale is also supported by the literature on TNW. Zafar Khan asserts that for TNW to be a deterrent effective and invulnerable, they should deny the adversary the decision to wage a war in the first place.<sup>48</sup> Therefore, Pakistan's security planners are in effect raising the costs of war to such an extent that it would deter the adversary from starting even a limited war.

Some South Asian experts have argued that the rest of Pakistan's inventory of ballistic and cruise missiles would have been enough to counter Indian aggression without going for the TNW option. This may in practice be true, but there are two things that we need to take into consideration – the action-reaction dynamic of India and Pakistan's security relationship, whereby Pakistan feels it has to respond in some way because it felt very threatened by Cold Start, and that while the existing conventional and ballistic missile inventory may in practice be effective against Indian limited war plans, TNW provide an added layer of deterrence. Pakistan cannot use strategic nuclear weapons in response to limited war incursions by India. Although the wisdom of introducing the weapons in a volatile South Asian environment is debatable, TNW do provide an additional option to strategic decision makers in Pakistan.

Pakistan has, thereby, demonstrated the capability to deter India at the tactical nuclear level. This puts the onus squarely on India-whether it is deterred by the capability. This brings the question of credibility of Pakistan's tactical deterrent into focus. Its credibility depends on whether India believes that Pakistan will use the TNW in the battlefield in the event of a limited war. Some of the statements coming from military officials and the political elite may be instructive in this regard. The initial statements like the one from Indian Chief of Army Staff, V. K. Singh were muted: "Nuclear weapons are not for war-fighting. They have got a strategic significance and that is where it should end."<sup>49</sup> Indian Air Force (IAF) Chief P. V. Naik was more stern; he warned that India's response would be "very heavy" in the event of any nuclear attack on the

country. “Tactical or strategic, it is a nuclear weapon. So, obviously our response would be absolutely violent as per our existing policy.”<sup>50</sup>

Some of the more recent statements from Indian leadership have turned more hawkish and talked about retaliating massively in response to even a tactical use of nuclear weapons. Shyam Saran, convener of the National Security Advisory Board, said in a recent address: “India will not be the first to use nuclear weapons, but if it is attacked with such weapons, it would engage in nuclear retaliation which will be massive and designed to inflict unacceptable damage on its adversary.”<sup>51</sup> Although the threat of retaliating massively in response to even tactical weapons is not credible, this gives an idea of how the Indian response to TNW is shaping up. His further remarks are also revealing as to how unhappy India is over the Pakistani effort to block the limited war-fighting Indian doctrine. Saran further talked about the “jihadist edge” that Pakistan’s nuclear weapons’ capability has acquired:

Pakistani motivation is to dissuade India from contemplating conventional punitive retaliation to sub-conventional but highly destructive and disruptive cross-border terrorist strikes such as the horrific 26/11 attack on Mumbai. What Pakistan is signalling to India and to the world is that India should not contemplate retaliation even if there is another Mumbai because Pakistan has lowered the threshold of nuclear use to the theatre level. This is nothing short of nuclear blackmail.<sup>52</sup>

Besides the angry nature of the response from Saran which indicates the Indian frustration and anger at the latest development, this provides a clue as to how credible the Indian leadership considers the tactical deterrent. The intensity of the response and the rhetoric of the above statements indicate that Pakistani tactical deterrent is credible to the Indian side. Taking the equation of Deterrence = Capability x Credibility into consideration, this would mean that successful demonstration of capability combined with credibility would result in successful deterrence. Hence, it would be stabilising for South Asian deterrence.

Many Pakistani experts and security planners consider TNW stabilising for deterrence. While most experts agree that introduction of TNW in an arena such as South Asia is a dangerous development, it may still be a better option than fighting a war, even if it is limited in nature, between states with nuclear weapons and can potentially escalate into a nuclear war.<sup>53</sup> Maria Sultan expressed one such opinion, “Yes you would have stability at a different level of instability.”<sup>54</sup> Zulfqar Khan also iterates the stabilising effects of TNW; the employment of TNW will make any attempt by the adversary to initiate attack – preventive, pre-



*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

emptive or even aggressive posture – much more difficult; TNW would reinforce the conventional deficiencies of Pakistan, would thereby reinforce its nuclear deterrence posture; TNW would make it difficult for the adversary to initiate limited conflicts because it would induce caution and moderation in the adversary's mind.<sup>55</sup> Zafar Jaspal argues that the weapons will bring stability since they address Pakistan's concerns vis-à-vis Cold Start, and help preserve the strategic balance of power.<sup>56</sup> Most of these experts, therefore, see TNW as a stabilising element for Pakistan.

Of course, the introduction of TNW lowers Pakistan's nuclear threshold. It also necessitates adjustments in Pakistan's nuclear doctrine, which at present is ambiguous at best. Pakistan has a first-use nuclear doctrine which envisages the use of nuclear weapons if the survival of the country is at risk, or if it is attacked with a nuclear weapon first. With the introduction of TNW, which are meant for battlefield war-fighting, the use of this low-yield weapon is envisaged to stop the advance of enemy's conventional forces even in a limited war scenario. It therefore lowers the nuclear threshold considerably. As far as Pakistan is concerned, it sees these weapons as bolstering its conventional capability. However, Saran's statement indicates that India may consider the use of nuclear weapons by its adversary – either tactical or strategic – as initiation of nuclear war, and would retaliate massively with nuclear weapons of its own. However, Pakistan's doctrinal ambiguity can play to its advantage. Since India envisions fighting a limited war under Pakistan's nuclear threshold, ambiguous nuclear red lines<sup>57</sup>, combined with a lowered nuclear threshold, can be played up to deter India from starting a limited war. Pakistan's nuclear ambiguity can thus be an element of stability, if it can credibly signal to India that a limited war would amount to a total war for Pakistan, and all means will be used to defend its territory.

In sum, Pakistan's demonstration of tactical nuclear capability may be stabilising if it deters India from assuming an aggressive posture in the form of doctrines like Cold Start. If India is not deterred, then the two adversaries may be looking at possible escalation to a strategic nuclear level.

### Deterrence Instability

Nuclear weapons are primarily meant for deterrence or to prevent war, not to fight wars. Hence, there are many issues and dangers that arise if the weapons are deployed in the battlefield, and these would negatively impact deterrence stability. These range from issues of command and control, the danger of inadvertent use, to the physical safety of the weapons and the dangers of pre-

emption. This also necessitates changes in the existing nuclear doctrine of Pakistan. The actual battlefield deployment and war-fighting is overall destabilising in the South Asian context. It thus presents a stabilisation-destabilisation dilemma for Pakistan.

The command and control of Pakistan's Nasr is thought to be central. This would mean that the weapons would not be controlled by the field commander, but by the central command. Zahir Kazmi asserts that "Nasr would most likely become Pakistan Army's Strategic Force Command (ASFC) asset", and its implication could be that "Pakistan could exercise assertive control over short-range ballistic missiles and would preclude the likelihood of pre-delegation."<sup>58</sup> Brig (R) Feroz Khan argues that central command reduces the credibility of the weapons: "Pakistan is planning a central control of the TNW when deployed in battlefield. Therefore, the battlefield commander has the weapons physically but not the authority to use it. This immediately reduces the credibility of the weapon."<sup>59</sup> Thus, reduced credibility X capability = deterrence instability. However, if Pakistan decides to opt for delegative control then the weapons would be more battlefield-effective, but prone to unauthorised or accidental use. This increases the effectiveness of the weapon and, therefore, its credibility, but increases the chances of inadvertent use, and creates deterrence instability. Thus, the command and control issue presents a serious dilemma.

There are deployment issues that also need close examination. Brig (R) Feroz Khan asserts that: "The weapon has to be deployed close to the border for it to be effective-not too deep not too shallow. Pakistan will be forced to use the weapon as soon as enemy forces are deployed."<sup>60</sup> Otherwise, there is the danger of being overrun by the oncoming enemy forces in a battle. A report by the UN Institute of Disarmament Research endorsed this view: "In fast moving battle, the risk of being overrun is particularly great for troops with short-range weapons... The vulnerability of TNWs, thus, contains an inherent imperative to employ them early in warfare."<sup>61</sup> This creates the 'use them or lose them' dilemma<sup>62</sup>, encouraging early use of the weapons. Mobility, camouflage and dispersion may increase their survivability and thus increase TNW deterrence value. The Nasr's shoot-and-scoot ability may be such an attempt to increase the weapons' survivability. The use of the weapon would, in turn, amount to firing the first tactical nuclear shot, which might result into an escalation ladder culminating in an all-out strategic nuclear exchange.

This also brings into question the physical security of TNW in a battlefield. Forward deployment of the weapon would mean that the weapon is vulnerable to air attack, and possibly vulnerable to a pre-emptive strike. The UNIDR report

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

endorses this view: “the intended use of TNW in battlefield and theatre-level operations in conjunction with conventional forces encourages their forward basing...in certain situations movement of TNW might actually provoke pre-emptive strike by the other side instead of deterring it.”<sup>63</sup> There is also the issue of field security.<sup>64</sup> The weapons are also vulnerable to theft. This affects both the capability and credibility of the weapon, creating deterrence instability.

Deployment of TNW close to the border means that Pakistani troops and nearby populations may suffer the fall-out from using these weapons. Ejaz Haider asserts that if Pakistan is going to unleash these weapons at the Indian military across the border, it would effectively be dropping them on its own soil.<sup>65</sup> A similar conclusion was drawn by a NATO exercise in 1955. NATO conducted Operation Carte Blanche, to assess the ability to defend itself against a Soviet invasion across the Northern German plain using TNW, and found that it would result in 2 million German deaths and 3.5 million injuries, and would render the country's industrial heartland uninhabitable.<sup>66</sup> Therefore, even if these weapons are very low-yield, it would affect Pakistan's own troops and population, since both India and Pakistan have populations living close to the border. The same also holds true for India if it decides to deploy TNW of its own.

The battlefield deployment of TNW would also require a change in Pakistan's doctrine. According to one expert, the induction of battlefield nuclear weapons “means that the deterrence strategy is moving away from the ‘simple punishment’ model to ‘deterrence by denial’ strategy.”<sup>67</sup> However, given the large number of TNW required for actual war-fighting and the huge costs associated with it, it is unlikely that Islamabad would go for this option. However, in the unlikely event that Pakistan does choose battlefield deployment, the doctrine would also have to address issues of command and control already discussed. While doctrinal ambiguity in non-deployed form may be advantageous for Pakistan, once the decision to produce and deploy the weapons is taken, Islamabad needs to be more specific in its doctrine to minimise inadvertent or advertent use of the weapons, and to ensure secure command and control.

In sum, Pakistan faces a dilemma of deterrence stability. From the Pakistani perspective, TNW would stabilise deterrence since it has shown the capability, and communicated the intent. However, the deterrence stability holds only until the weapons are actually deployed for large-scale battlefield war-fighting. If it comes to weaponisation and one or both countries resort to battlefield deployment, it would be detrimental for deterrence stability, since issues of command and control – like central command or pre-delegation – mean that the chances of inadvertent use increase, the use it or lose it dilemma comes into play,

and the physical insecurity of the weapons becomes detrimental to deterrence. Once the first nuclear shot is fired, there could be a quick escalation to an all-out nuclear conflict. Therefore, deploying large-scale battlefield nuclear weapons and war-fighting doctrines are destabilising in a theatre such as South Asia.

### Tactical Nuclear Weapons and Scenarios of Nuclear Use

The use and deployment of battlefield weapons remains a possibility in the subcontinent. Nuclear doctrines for both India and Pakistan are vague, but there is a consensus that Pakistan intends to use them in its battlefield forces against any limited war incursions envisioned by India under the Cold Start doctrine. Being the conventionally weaker adversary, Pakistan envisions TNW as a force equaliser. It is unclear what utility India may have of deploying a TNW against Pakistan<sup>68</sup>, since India is conventionally much superior to Pakistan, and can achieve its military objectives by conventional means alone. However, with a 150 km range, Prahaar can easily be deployed in counter-value role against Pakistani cities like Lahore, and can be seen as adding to India's strategic arsenal. Alternately, they may be used against select Pakistani counter-force targets, or against Chinese forces on the contested Sino-India border in the event of resumption of hostilities.<sup>69</sup>

How might TNW be used in a conflict? Both India and Pakistan consider nuclear weapons as political weapons. So the first possibility is that the weapons may be used symbolically as an indication of intent – to signal that the conflict is reaching a higher level of risk. This may take the form of low-yield nuclear detonation at a remote site or near the area of conflict. TNW can also be demonstrated with a military effect. Pakistan mainly seeks to deter Indian conventional incursions envisaged by Cold Start, or resort to the use of nuclear weapons if her national survival is at stake. A possible scenario of use could be Indian decision to make conventional surgical strikes into Pakistani territory as a response to real or perceived threats, like the 2008 Bombay-style terrorist attacks, or the 2001 attacks on Indian parliament. In such a scenario, Pakistan could do a symbolic detonation away from the conflict area or close to it, in order to warn India. However, in the latter case, there is the danger of escalation if India sees it as an initiation of nuclear use. Pakistan can also use TNW against Indian forces while they are still on Indian soil. But again, that could lead to escalation if India sees it as the firing of the first nuclear shot. Pakistan can also use TNW in limited numbers against Indian ground forces inside Pakistani territory. However, this would have the disadvantage of having a nuclear fall-out on Pakistani populations that are close to the border. TNW can also be used in large numbers against invading Indian ground forces for actual war fighting. However, Pakistan

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

would have to use them in large numbers to be somewhat effective, which would not be cost-effective for Pakistan and therefore, not a feasible option in the foreseeable future. The use of TNW can take other forms, but which will only be considered if Pakistan's very survival is at stake - attack on Indian naval forces; attack on ground forces inside India; attack on Indian airfields; and on Indian nuclear assets.<sup>70</sup>

Given the disadvantages of large scale deployment of TNW and inherent problems associated with battlefield war-fighting, the best option for Pakistan may perhaps be what Zulfqar Khan suggests. Pakistan needs to communicate the resolve to use its TNW, and have an offensive deterrence posture.<sup>71</sup> However, he suggests large scale deployment of TNW which, in reality, would be too costly and infeasible. It might be prudent for Pakistan to deploy a limited number of weapons as signalling or warning to India and use the doctrinal ambiguity to create doubt in the adversary's mind.

## **Conclusion**

The findings of the paper endorse its basic premise that TNW do impact deterrence stability in South Asia. TNW present a deterrence stabilisation-destabilisation dilemma for Pakistan. They are stabilising in the non-deployed form since they counter-balance the deterrence instability introduced by India's Cold Start doctrine. From the Pakistani perspective, they provide assurance against a low-level conflict or limited war that India may be preparing for in light of its Cold Start doctrine. Pakistani policy is aimed at deterring any form of war – general or limited. In many ways, this development could be considered as increasing deterrence stability, since the particular characteristics of South Asian theatre mean that even a low-level conflict could escalate into a nuclear war. However, the deployment of TNW for battlefield war-fighting opens a Pandora's Box that would negatively impact deterrence stability, since having battlefield nukes means that the chances of advertent and inadvertent use increase, it invites pre-emption, entails complex command and control issues, and poses problems of escalation control. The lessons from the US experience with TNW during the Cold War indicate that the weapons do not belong to the modern battlefield. Nuclear weapons are only meant for deterrence. Thus, battlefield war-fighting entails a host of issues that the South Asian decision makers and strategic planners may be ill-prepared for.

A way out of the stabilisation-destabilisation dilemma may be to adopt an offensive deterrence posture, complemented by a limited number of TNW deployments along the border as a symbolic warning to India. Pakistan has

neither the financial means nor the will for large scale battlefield deployment of TNW. However, it does need to aggressively signal to the adversary that limited war incursions will be met with tactical nuclear response, in order for its deterrent to be credible. Both India and Pakistan have acted as rational adversaries since the advent of nuclear weapons. The same nuclear deterrence that has worked at deterring general war for nearly three decades should also work in deterring India from starting a limited conventional conflict. Just like strategic nuclear weapons, TNW are also in fact political weapons meant to prevent the start of conflict. The only difference is that they aim to prevent limited conventional war. However, if either Pakistan or India chooses to use these weapons for battlefield war-fighting, the consequences would be catastrophic, possibly resulting in escalation to an all-out nuclear war.

The only guarantee for deterrence stability in South Asia is an easing of the security dilemma and the associated action-reaction dynamic between India and Pakistan, and curbing the resulting arms race in both the conventional and the nuclear field. The way forward for India and Pakistan is to lessen the security competition, work on a nuclear restraint regime- especially a restraint regime for TNW, negotiate arms control and disarmament measures, and most importantly, work on resolving outstanding issues like Kashmir that make the relationship conflict-prone. Arms races and aggressive doctrines are counter-productive, since they do not increase the security of either India or Pakistan, and only lead to a destructive path towards nuclear war that is not in the best interest of any party.

## **Notes & References**

---

<sup>1</sup> India has not explicitly announced Prahara as nuclear capable but left it open-ended by announcing that it is capable of carrying different types of warheads.

<sup>2</sup> Michael Krepon, "Pakistan's Nuclear Strategy and Deterrence Stability," in *Deterrence Stability and Escalation Control in South Asia*, eds. Michael Krepon and Julia Thompson (Washington: The Stimson Center, 2013), 41-64;

Rajesh Basrur, "South Asia: Tactical Nuclear Weapons and Strategic Risk," *RSIS Commentaries*, no. 65 (April 2011), <http://www.rsis.edu.sg/publications/perspective/RSIS0652011.pdf>;

Brig (R) Naeem Salik, "Tactical Nuclear Weapons and Deterrence Stability" (Naval Postgraduate School), [www.nps.edu/Academics/Centers/CCC/PASCC/Publications/2012/2012\\_002\\_Salik.pdf](http://www.nps.edu/Academics/Centers/CCC/PASCC/Publications/2012/2012_002_Salik.pdf)

Yet others like Timothy Hoyt argue that introduction and use of TNW in a highly dangerous environment like South Asia presents dangers of preemption,

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

---

progressively delegative command and control, and battlefield use with escalation potential. See Tomothy Hoyt, "The Buddha Frowns? Tactical Nuclear Weapons in South Asia," in *Tactical Nuclear Weapons: Emergent Threats in an Evolving Security Environment*, eds. Brian Alexander and Alistair Miller (Virginia: Potomac Books Inc., 2003), Kindle edition, location 1713-2028, Shashank Joshi, "Pakistan's Tactical Nuclear Nightmare: Déjà vu?" *The Washington Quarterly* 36, no.3 (Summer 2013): 159-172, Mark Fitzpatrick also argues that deployment of TNW can lead to rapid escalation if deterrence fails due to misperceptions and fog of war and due to short distances leading to 'use them or lose them' dilemma. He overall sees TNW as destabilising for nuclear deterrence in South Asia. Mark Fitzpatrick, *Overcoming Pakistan's Nuclear Dangers* (London: the International Institute of Strategic Studies, 2014), 84-85.

- <sup>3</sup> Zulfqar Khan, "Tactical Nuclear Weapons and Pakistan's Option of offensive deterrence," in *Nuclear Pakistan: Strategic Dimensions*, ed. Zulfqar Khan, (London: Oxford University Press, 2011), 25-26, Zafar Nawaz Jaspal, "Tactical Nuclear Weapons: Deterrence Stability between India and Pakistan," January 2012, Naval Postgraduate School, [http://www.nps.edu/Academics/Centers/CCC/PASCC/Publications/2012/2012\\_002\\_Jaspal.pdf](http://www.nps.edu/Academics/Centers/CCC/PASCC/Publications/2012/2012_002_Jaspal.pdf)

Adil Sultan, "Pakistan's Emerging Nuclear Posture: Impact of Drivers and Technology on Nuclear Doctrine," *Strategic Studies XXXI & XXXII*, no. 4 & 1 (Winter 2011 & Spring 2012):147-167, Zahir Kazmi, "SRBMs, Deterrence and Regional Stability in South Asia: A Case Study of Nasr and Prahaar," *Institute of Regional Studies*, Islamabad (October 2012): 6, [www.irs.org.pk/strategic/spso12.doc](http://www.irs.org.pk/strategic/spso12.doc). These analyses in favor of TNW mostly argue that they provide stability by counterbalancing the instability introduced by India's Cold Start doctrine. While they acknowledge the negative aspects of introducing TNW in South Asia but argue that it might still be a better option than risking a conventional war in the subcontinent.

- <sup>4</sup> Brian Alexander and Alistair Miller, "Uncovered Nuke: An Introduction to Tactical Nuclear Weapons," in *Tactical Nuclear Weapons: Emergent Threats in an Evolving Security Environment*, Kindle edition, location 344.

<sup>5</sup> Ibid.

- <sup>6</sup> Robert Norris and Hans Kristensen, "US Tactical Nuclear Weapons in Europe, 2011," *Bulletin of Atomic Scientists* 67, no. 1(2011):65, <http://www.nonukes.nl/media/files/2010-12-bas-us-tactical-nukes-in-europe-2011.pdf>

- <sup>7</sup> David O. Smith, "The US Experience with Tactical Nuclear Weapons: Lessons for South Asia," in *Deterrence Stability and Escalation Control in South Asia*, 75.

- <sup>8</sup> See Collin Grey, "Theatre Nuclear Weapons: Doctrines and Postures," *World Politics* 28, no. 2 (1976): 300-314 and Phillip W. Dyer, "Will Tactical Nuclear Weapons Ever be Used?" *Political Science Quarterly* 88, no. 2(June 1973):214-229. Also see Phillip W. Dyer, "Tactical Nuclear Weapons and Deterrence in Europe," *Political Science Quarterly* 92, no. 2, (summer 1977): 245-257

- 
- <sup>9</sup> Smith, "The US Experience with Tactical Nuclear Weapons," 76-8.
- <sup>10</sup> Many analysis of deterrence divide the classical deterrence theory into structural deterrence theory and decision-theoretic deterrence. The former relies on assumptions of realism and balance of power to hold deterrence while the latter starts with the assumptions of structural deterrence theory, and uses utility and game theory to construct models of deterrence. The present paper uses the structural deterrence theory. See Stephen L. Quackenbush, "Deterrence Theory: where do we stand?" *Review of International Studies* 37, Issue. 2 (April 2011), and Frank C. Zagare, "Reconciling Rationality with Deterrence: A Re-examination of the Logical Foundations of Deterrence Theory," *Journal of Theoretical Politics* 16, no. 2 (2004): 109-110.
- <sup>11</sup> Kenneth N. Waltz, *Theory of International Politics* (Massachusetts: Addison-Wesley Publishing Company, 1979), 116-128, John Mearsheimer, *The Tragedy of Great Power Politics* (New York: Norton, 2001), Waltz and Mearshiemer both divide balancing into internal balancing and external balancing. The former is comprised to building a state's internal military, economic and political capacity and the latter is comprised of forming external alliances in order to balance against a threatening state or alliance.
- <sup>12</sup> Charles L. Glaser and Chaim Kaufmann. "What Is the Offense- Balance and How Can We Measure It?." *International Security* 22, no. 4 (Spring 1998): 44-82, Stephen Van Evera, "Offense Defence and the Causes of War," *International Security* 22, no. 4(Spring 1998): 5-43. Van Evera argues that war is more likely when the adversary's offense is weak and victory is cheap.
- <sup>13</sup> Quackenbush, "Deterrence Theory," 742.
- <sup>14</sup> Skype interview with Brig (R) Feroz Hassan Khan, former Director, Arms Control and Disarmament Affairs, Strategic Plans Division, on December 2, 2013.
- <sup>15</sup> Salik, "Tactical Nuclear Weapons."
- <sup>16</sup> Interview with Air Commodore Khalid Banuri, Director, Arms Control and Disarmament Affairs, Strategic Plans Division on December 19, 2013.
- <sup>17</sup> ISPR press release No. PR94/2011-ISPR Rawalpindi, April 19, 2011
- <sup>18</sup> Rodney Jones, "Pakistan's Answer to Cold Start?," *Friday Times*, XXIII, no. 13 (May 13-19, 2011), <http://www.thefridaytimes.com/13052011/page7.shtml>
- <sup>19</sup> ISPR press release No. PR17/2013-ISPR Rawalpindi, February 11, 2013
- <sup>20</sup> Chris Clary and Vipin Narang, "Doctrines, Capabilities and (In) Stability in South Asia," in *Deterrence Stability and Escalation control in South Asia*, 100.
- <sup>21</sup> Although India does not have anti-tactical BMD at present, it can develop the system in future since it has the basic BMD technology now. Also the US has the Patriot and Aegis systems and Israel has the Arrow missile which may be a source of concern for Pakistan since there has been some cooperation between India and Israel and also talk of possible cooperation with the US.
- <sup>22</sup> "Prahaar Hits the Target," *DRDO Newsletter* 31, no. 8 (August 2011), [http://drdo.gov.in/drdo/pub/nl/2011/NL\\_Aug\\_web\\_25\\_8.pdf](http://drdo.gov.in/drdo/pub/nl/2011/NL_Aug_web_25_8.pdf)



*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

---

- <sup>23</sup> Subramanian Y. Mallikarjun "Prahaar missile successfully test fired," *The Hindu*, Jul. 22, 2011, <http://www.thehindu.com/news/national/prahaar-missile-successfully-testfired/article2279166.ece>
- <sup>24</sup> Kazmi, "SRBMs, Deterrence and Regional Stability in South Asia,"<sup>9</sup>.
- <sup>25</sup> *Ibid*, 12.
- <sup>26</sup> John Herz, "Idealist Internationalism and the Security Dilemma," *World Politics* 2 (1950), also see Barry Buzan, *People, States and Fear: The National Security Problem in International Relations*(New Delhi: Transasia Publishers, 1983), 157,Buzan calls this security dilemma a "power-security dilemma, Robert Jervis, "Cooperation under the Security Dilemma," *World Politics*30, no. 2(January 1978):167-214.
- <sup>27</sup> Interview with Maria Sultan, Director General, South Asian Strategic Stability Institute (SASSI) on December 5, 2013.
- <sup>28</sup> Eric Auner "Indian Missile Defence Program Advances," *Arms Control Today*(January/February 2013), [https://www.armscontrol.org/act/2013\\_01-02/Indian-Missile--Program-Advances](https://www.armscontrol.org/act/2013_01-02/Indian-Missile--Program-Advances)
- <sup>29</sup> "Missile Defence Shield Ready: DRDO chief," *The Hindu*, May 6, 2012.
- <sup>30</sup> Pakistan is developing Babar and Ra'ad cruise missiles which are land and air launched respectively.
- <sup>31</sup> ISPR press release No. PR17/2013-ISPR Rawalpindi, February 11, 2013
- <sup>32</sup> "Pakistan considers India's ballistic missile system as destabilising development: FO," *The Nation*, May 9, 2013.
- <sup>33</sup> Zafar Khan, "The Arrival of Tactical Nuclear Weapons in South Asia: Deterrent stability or instability?" *Comparative Strategy*32, no. 5 (2013):408
- <sup>34</sup> Kazmi, "SRBMs, Deterrence and Regional Stability in South Asia," 27.
- <sup>35</sup> Russia refuses to negotiate reduction in SRBM unless the US addresses its concerns vis a vis BMD systems in Europe. Russia has deployed Iskander missiles in its Baltic Sea exclave of Kaliningrad, in response to US plans to deploy missile system in Europe. See "Russia has stationed Iskander missiles in Western Regions: Reports," *Reuters*, Dec 16, 2013, <http://www.reuters.com/article/2013/12/16/us-russia-missiles-idUSBRE9BF0W020131216>
- <sup>36</sup> Walter Ladwig, "A Cold Start for Hot Wars? The Indian Army's New Limited War Doctrine," *International Security*32, no. 3(Winter 2007/08):165.
- <sup>37</sup> *Ibid*, 173.
- <sup>38</sup> ISPR press release No PR11/2010-ISPR, January 13, 2010, [http://www.ispr.gov.pk/front/main.asp?o=t-press\\_release&date=2010/1/13](http://www.ispr.gov.pk/front/main.asp?o=t-press_release&date=2010/1/13)
- <sup>39</sup> ISPR Press Release No PR2/2010-ISPR, January 1, 2010, [http://www.ispr.gov.pk/front/main.asp?o=t-press\\_release&id=1082](http://www.ispr.gov.pk/front/main.asp?o=t-press_release&id=1082)
- <sup>40</sup> "Pakistan Army to Preempt India's 'Cold Start Doctrine,'" *The Express Tribune*, Jun. 16, 2013
- <sup>41</sup> Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb* (Stanford, Stanford University Press, 2012), 394.
- <sup>42</sup> *Ibid*, 396.
- <sup>43</sup> *Ibid*, 396.

- 
- <sup>44</sup> Interview with Maria Sultan.
- <sup>45</sup> Michael Krepon, "The Stability-Instability Paradox, Misperception, and Escalation Control in South Asia" May 2003, The Henry Stimson Center, <http://www.stimson.org/images/uploads/research-pdfs/ESCCONTROLCHAPTER1.pdf>, also see Robert Rauchhaus "Evaluating the nuclear peace hypothesis: A Qualitative Approach", *Journal of Conflict Resolution* 53, no. 2(April 2009): 258-277.
- <sup>46</sup> ISPR press release N. PR130/2012-ISPR Rawalpindi, May 29, 2012.
- <sup>47</sup> This refers to off the record officials' statements quoted by Feroz Khan, see references 42 and 43.
- <sup>48</sup> Zafar Khan, "The Arrival of Tactical Nuclear Weapons," 408.
- <sup>49</sup> Raja Pandit, "Nuclear weapons only for Strategic Deterrence: Army Chief," *The Times of India*, Jan. 16, 2012.
- <sup>50</sup> Raja Pandit, "Response to Strike by Pak will be very heavy: IAF Chief," *The Times of India*, Jul. 26, 2011, [http://articles.timesofindia.indiatimes.com/2011-07-26/india/29815644\\_1\\_iaf-indian-air-force-nuclear-attack](http://articles.timesofindia.indiatimes.com/2011-07-26/india/29815644_1_iaf-indian-air-force-nuclear-attack)
- <sup>51</sup> Indrani Bagchi, "Strike by even a midget nuke will invite massive response: India warns Pak," *The Times of India*, Apr. 30, 2013.
- <sup>52</sup> Ibid.
- <sup>53</sup> Gilpin writes: "it is highly doubtful that a war between two nuclear powers could be limited and escalation into full scale war prevented." Robert Gilpin "The Theory of Hegemonic War," in Robert I Rotberg and Theodore K. Rabb eds. *The Origin and Prevention of Major War* (Cambridge: Cambridge University Press, 1998), 35.
- <sup>54</sup> Interview with Maria Sultan.
- <sup>55</sup> Zulfqar Khan, "Tactical Nuclear Weapons," 25-26.
- <sup>56</sup> Jaspal, "Tactical Nuclear Weapons."
- <sup>57</sup> Lt Gen Khalid Kidwai, specified the conditions under which nuclear weapons may be used: 1) in case of loss of large part of territory; 2) in case of economic strangulation such as blockade or manipulation of water supply; 3) destruction of large parts of Army or Air force; 4) Domestic destabilisation. Paolo Cotta-Ramusino and Maurizio Martellini, "Nuclear Safety, Nuclear Stability and Nuclear Strategy in Pakistan: A Concise Report of Landau Network-Centro Volta," January 14, 2002, <http://www.pugwash.Org/september11/Pakistan-nuclear.htm>
- <sup>58</sup> Zahir Kazmi, "SRBMs, Deterrence and Regional Stability in South Asia," 6.
- <sup>59</sup> Interview with Brig (R) Feroz Khan
- <sup>60</sup> Ibid.
- <sup>61</sup> William Potter, Nikolai Sokov, Herald Muller, and Annette Schaper, "Tactical nuclear Weapons: Options for Control," UNIDIR (2000), 39, <http://unidir.org/files/publications/pdfs/tactical-nuclear-weapons-options-for-control-102.pdf>.
- <sup>62</sup> See Salik, "Tactical Nuclear Weapons," and Jones, "Pakistan's answer to Cold Start," and Fitzpatrick, *Overcoming Pakistan's Nuclear Dangers*, 85.
- <sup>63</sup> Potter et al, "Tactical nuclear Weapons: Options for Control," 4.

*Tactical Nuclear Weapons and Deterrence Stability in South Asia: Pakistan's  
Stabilisation-Destabilisation Dilemma*

---

- <sup>64</sup> Interview with Feroz Khan.
- <sup>65</sup> Ejaz Haider, "Stupidity Goes Nuclear I," *The Express Tribune*, Apr. 26, 2011.
- <sup>66</sup> Smith, "The US Experience with Tactical Nuclear Weapons," 69.
- <sup>67</sup> Salik, "Tactical Nuclear Weapons and Deterrence Stability."
- <sup>68</sup> Some analysts argue that India is not developing TNW and that it has no utility for them. India's doctrine of massive retaliation and No First Use (NFU) as opposed to Pakistan's full spectrum deterrence does not call for development of TNW. This may be true but the DRDO statement (that Prahaar is capable of carrying different types of warheads, will operate as battlefield support system for Indian Army) indicates that India has the capability should it ever chose to develop these weapons.
- <sup>69</sup> Hoyt, "The Buddha Frowns," Kindle edition, location 1752.
- <sup>70</sup> Ibid, Kindle edition, location 1930-39.
- <sup>71</sup> Zulfqar Khan argues that Pakistan needs to reorient its doctrine from minimum credible deterrence to offensive deterrence and deploy TNW along its border in order to deter aggression from India. Zulfqar Khan, "Tactical Nuclear Weapons," 19.