Debating Potential Doctrinal Changes in India's Nuclear Ambitions

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Abstract

The Hindu right-wing Bharatiya Janata Party (BJP) made history by winning a clear majority in the 2014 Indian elections. The Party espouses updating and revising India's nuclear doctrine and making it relevant to the challenges of current times. Prospective change in the three central tenets of the nuclear doctrine – No First Use (NFU), threat of massive retaliation and a policy of Credible Minimum Deterrence (CMD) – will impact other areas as well. India's revision of its support for a nuclear-weapons-free world, moratorium on nuclear testing and the willingness to negotiate the Fissile Material Cutoff Treaty (FMCT) would be problematic. This article examines the likely impact of possible revision in the stated Indian doctrine on deterrence stability and global nuclear politics.

Keywords: No First Use, Deterrence, Strategic Stability, Arms Race, India-Pakistan, Massive Retaliation.

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IPRI Journal ■ XVIII (2): 53-77.
https://doi.org/10.31945/iprij.180203.

Introduction

Almost a year after conducting nuclear tests in May 1998, India announced a Draft Nuclear Doctrine (DND) in 1999.[1] The doctrine was later revised in 2003 and since then, India proclaims No First Use (NFU) of nuclear weapons (NWs), massive retaliation and Credible Minimum Deterrence (CMD).[2] These are arguably the central tenets of its nuclear policy. Other Indian commitments include Negative Security Assurances (NSAs) against a Non-Nuclear Weapon State (NNWS) which is not aligned with any Nuclear Weapon State (NWS); a robust nuclear command and control (NC2) structure, and moratorium on nuclear testing. India has also committed to the goal of a nuclear-weapons-free world, negotiating the Fissile Material Cutoff Treaty (FMCT), and enforcement of stringent strategic export controls.

Over the last decade, several statements have come out from India's political,[3] military[4] and scientific community,[5] indicating at least some possible shifts in the country's nuclear doctrinal thinking. With the Bharatiya Janata Party (BJP)'s explicit announcement of updating and

[1] "India's Draft Nuclear Doctrine" (Washington, D.C.: Arms Control Association, 1999), http://www.armscontrol.org/act/1999_07-08/ffja99.

[2] Ministry of External Affairs, Government of India, "The Cabinet Committee on Security Reviews [O]Perationalization of India's Nuclear Doctrine" press release, January 4, 2003, http://www.mea.gov.in/press-releases.htm?dtl/20131/The+Cabinet+Committee+on+Security+Reviews+perationalization+of+Indias+Nuclear+Doctrine.

[3] "Revise 'No First Use' Nuke Policy: Jaswant," *Economic Times*, March 16, 2014, https://economictimes.indiatimes.com/news/politics-and-nation/revise-no-first-use-nuke-policy-jaswant/articleshow/7714713.cms; Sushant Singh, "Manohar Parrikar Questions India's No-First-Use Nuclear Policy," *Indian Express*, November 11, 2016, http://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/; and Shivshankar Menon, *Choices: Inside the Making of Indian Foreign Policy* (Haryana: Penguin Random House India, 2016), 101.

[4] "May Have to Revisit Nuclear No-First Use Policy: Army Chief," *Times of India*, September 6, 2009, http://timesofindia.indiatimes.com/india/May-have-to-revisit-nuclear-no-first-use-policy-Army-chief/articleshow/4977129.cms.

[5] "New DRDO Chief Reveals India's Plan to Reduce Current Response Time for Second N-Strike," *India Today*, July 4, 2013, http://headlinestoday.intoday.in/programme/drdo-current-response-time-for-second-n-strike/1/286862.html.

revising the nuclear doctrine in its election manifesto,[6] the likelihood of changes under BJP's simple majority government cannot be overlooked. Some analysts believe that India might already be undergoing 'doctrinal restructuring' since the release of its DND, with respect to Indian policies of NFU and massive retaliation.[7] During the 2017 Carnegie International Nuclear Policy Conference, Vipin Narang, Associate Professor of Political Science at the Massachusetts Institute of Technology (MIT) and a member of MIT's Security Studies Program, asserted that 'there is increasing evidence that India will not allow Pakistan to go first.'[8] The talk rekindled debate on the subject after it was widely covered in the print and electronic media.

It is likely that this is only political rhetoric by the BJP to attract a certain vote bank. Regardless of the motivation behind this signalling, the possibilities it opens up provide enough reason to explore the likelihood and implications of any change that India may bring in its nuclear doctrine at any point in the future. This, of course, is based on the overarching assumption that the regional and international nuclear scenario does not drastically change.

Before coming into power in 1998, the BJP had announced in its election manifesto that, if elected, it would induct NWs.[9] The Party fulfilled its political commitment by conducting nuclear tests after it came to power and forming a coalition government. One reason that analysts cite, for the motivation behind India's nuclear tests, is the BJP's domestic political considerations.[10] These considerations could act as a driver for possible shifts in the nuclear doctrine, declared earlier. Any state's stated

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[6] BJP, *BJP Election Manifesto 2014: Ek Bharat, Shreshta Bharat* (New Delhi: Bharatiya Janata Party, 2014), http://www.bjp.org/images/pdf_2014/full_manifesto_english_07.04.2014.pdf.

[7] Zulfqar Khan and Ahmad Khan, "The Strategic Impasse over India's Doctrinal Restructuring," *The Washington Quarterly* 39, no. 1 (2016): 139-157, https://doi.org/10.1080/0163660X.2016.1170485.

[8] Vipin Narang, "Beyond the Nuclear Threshold: Causes and Consequences of First Use" (presentation at Carnegie International Nuclear Policy Conference, Washington, D.C., March 20-21, 2017),YouTube, https://youtu.be/ChdTSSRlXB8.

[9] BJP, "Our Nation's Security," *BJP Election Manifesto 1998* (New Delhi: Bharatiya Janata Party, 1998), http://www.bjp.org/documents/manifesto/bjp-election-manifesto-1998/chapter-8.

[10] Zachary Keck, "Why India Tested Nuclear Weapons in 1998," *Diplomat*, September 20, 2013, http://thediplomat.com/2013/09/why-india-tested-nuclear-weapons-in-1998/.

policies regarding its nuclear strategy, at best, remain political declarations only. Moreover, a nuclear doctrine is not a legally binding document, and there are no guarantees that a state would abide by those declarations, once at war. That said, perceptions of a state's nuclear posture and doctrine could also influence global and regional deterrence stability, including global nuclear politics and arms race.

This article examines the possible nuclear doctrinal revisions that the BJP may consider; how these shifts may affect the deterrence stability vis-à-vis Pakistan; and their impact on global nuclear politics. The three main tenets of India's nuclear doctrine have been reviewed and divided into three separate categories:

1. aspects that could be revised;
2. aspects which are dependent upon the first category that may or may not be revised;
3. aspects which are not directly related to the first two categories and are highly unlikely to be revised.

Subsequently, the merits and demerits of prospective changes in certain policies have been analysed. Finally, the implications of any changes on regional stability and global nuclear politics have been discussed.

Three Pillars of India's Nuclear Doctrine

Besides the BJP's interest in revising and updating India's nuclear doctrine, there has been a persistent debate in the country over the revision of its nuclear policies. The policies of NFU, massive retaliation and CMD are the three pillars of India's nuclear doctrine. In order to circumvent Pakistan for what it believes, or otherwise claims, are Pakistan-sponsored terrorist acts inside India, New Delhi might change its stance on these policy positions and adopt inappropriate means for achieving its desired ends. For example, Indian analysts argue that the country should abandon

its policy of NFU.[11] There are also Indian politicians who vehemently support this idea.[12] This section looks at these three pillars in detail:

No First Use (NFU)

India has pledged NFU of NWs, unless its own territory or forces deployed elsewhere come under a nuclear, chemical or biological attack.[13] The Indian rationale for NWs' acquisition has been to ensure that the country is not subjected to nuclear threats or coercion.[14] This implies that its forces can deal with any military threats, except nuclear, at the conventional level. Thus, NFU would mean that it could deal with Pakistan conventionally, as long as the latter does not use NWs.

The debate over the revision of NFU within India is divided into two camps, both of which support doctrinal revision, but for different reasons. The first school of thought argues that since India does not have the sufficient operational capability to credibly maintain NFU, the policy should be revised.[15] The second group's rationale is India's current inability to either deter Pakistan's alleged support of terrorists or to threaten pre-emption.[16] Vipin Narang's talk, alluded to earlier pointed out another aspect i.e., 'India might not allow Pakistan to go first [use nuclear weapons].'[17] Further adding:

[11] D. Suba Chandran, "Should India Give up its NFU Doctrine?" (New Delhi: Institute of Peace and Conflict Studies, 2010), http://www.ipcs.org/comm_select.php?articleNo=3169.
[12] "Revise 'No-First-Use' N-Policy: Jaswant," *Economic Times*.
[13] Ministry of External Affairs, Government of India, "The Cabinet Committee on Security Reviews [O]Perationalization of India's Nuclear Doctrine."
[14] Shri Atal Bihari Vajpayee, "Suo Motu Statement by Prime Minister Shri Atal Bihari Vajpayee in Parliament" (speech, New Delhi, May 27, 1998), Nuclear Age Peace Foundation, http://www.nuclearfiles.org/menu/key-issues/nuclear-weapons/issues/policy/indian-nuclear-policy/suo-motu-statement-pm.html.
[15] Abhijit Iyer-Mitra, "India's Nuclear Imposture," *New York Times*, May 11, 2014, http://www.nytimes.com/2014/05/12/opinion/indias-nuclear-imposture.html?_r=1.
[16] P.R. Chari, "India's Nuclear Doctrine: Stirrings of Change" (Washington, D.C.: Carnegie Endowment for International Peace, 2014), http://carnegieendowment.org/2014/06/04/india-s-nuclear-doctrine-stirrings-of-change.
[17] Narang, "Beyond the Nuclear Threshold: Causes and Consequences of First Use."

> India's opening salvo may not be conventional strikes trying to pick off just *Nasr* batteries in the theatre, but a full 'comprehensive counterforce strike' that attempts to completely disarm Pakistan of its nuclear weapons.[18]

This implies that India might consider pre-emptive strikes for damage limitation as it reconsiders its NFU policy. In this regard, the following are important considerations:

First, if the Indian doctrine needs revision on the basis that it does not have the capability to credibly maintain a policy of NFU, then India is probably way past that point. It has developed an Intercontinental Ballistic Missile (ICBM) capability in the form of its 5000km range *Agni-V* missile.[19] Due to its longer range and greater geographical depth, this missile provides somewhat limited second-strike capability against Pakistan. It would be very difficult for Pakistan to use its land or air-based delivery systems to pre-empt – or even credibly threaten – any missile that is deployed deep inside India. This point was alluded to by Pakistan's former Director General Strategic Plans Division, Lt. Gen. (Retd.) Khalid Kidwai as he explained that any land mass – out of Pakistan's strategic weapons' reach – would provide India with second-strike capability.[20] The same predicament explains development of the *Shaheen-3* missile with which Pakistan can handicap strategic bases that could host ICBMs – potentially usable against it.

Secondly, if the policy of NFU needs revision with regards to the Chinese threat, then the Indian sea-based deterrent is already at an advanced stage of development and may be inducted in the near future.[21] In fact, it can be argued that India already possesses a limited second-

[18] Ibid.

[19] Rajat Pandit, "Agni-V, India's First ICBM Test-Fired Successfully," *Times of India*, April19, 2012, http://timesofindia.indiatimes.com/india/Agni-V-Indias-first-ICBM-test-fired-successfully/articleshow/12726732.cms.

[20] CEIP, "A Conversation with Gen. Khalid Kidwai" (transcript, Carnegie Endowment for International Peace, Washington, D.C., 2015), http://carnegieendowment.org/files/03-230315carnegieKIDWAI.pdf.

[21] Ankit Panda, "India's Indigenous Nuclear Submarine, Agni-V ICBM Set to Launch in 2015," *Diplomat*, February 11, 2014, http://thediplomat.com/2014/02/indias-indigenous-nuclear-submarine-agni-v-icbm-set-to-launch-in-2015//.

strike capability against Pakistan and may acquire it against China once its sea-based deterrent is operationalised. India's strategic modernisation can be interpreted as practical steps aimed at meeting the operational requirements of its existing nuclear doctrine. In this context, pursuits of Ballistic Missile Defence (BMD) and an assured second-strike capability may be consistent with its current NFU posture and may not be a departure from it.

An alternative blueprint of India's nuclear doctrine published by the Institute of Peace and Conflict Studies (IPCS) suggests maintaining NFU. However, in contrast to the mainstream interpretation, this document considers the acts of mating weapon systems and deployment by the adversary, as constituting First Use (FU) of NWs by a state.[22] If such an interpretation is also applied on the declaratory Indian nuclear doctrine, then the entire notion of its declared NFU becomes suspect.

During the 2001-02 military stand-off and the 2008 Mumbai crisis, India realised that even with its superior conventional military forces and nuclear deterrent, it could not use conventional means against Pakistan. In contrast, the lesson Pakistan drew from these two post-1998 crises was that a future Indo-Pak crisis could provide India an opportunity to coerce or 'punish' it through limited but swift use of its conventional forces. This belief was further reinforced given its sustained conventional military build-up and reports of a Cold Start Doctrine (CSD), which could allow India to conventionally 'punish' Pakistan, while remaining below what New Delhi perceived as the former's nuclear threshold.[23] Subsequently, Pakistan's introduction of *Nasr,* the short-range nuclear capable ballistic missile system, has apparently made it difficult for India to ignore such developments and still operationalise plans such as CSD.

Apparently, India's conventional military might and NWs' capability fail to produce a combined effect to deter terrorist incidents from the Pakistani side - the assumption here being that Pakistan is a state

[22] IPCS, *India's Nuclear Doctrine: An Alternative Blueprint* (New Delhi: Institute of Peace and Conflict Studies, 2012), http://www.ipcs.org/Indias-Nuclear-Doctrine.pdf (link discontinued).

[23] "Cold Start to New War Doctrine," *Times of India,* April 14, 2004, http://articles.timesofindia.indiatimes.com/2004-04-14/india/28335095_1_new-war-doctrine-army-commanders-commanders-conference.

supporting terrorism in India. A noted Indian analyst, P. R. Chari, summarises this situation as follows:

> These developments [Pakistan's development of *Nasr* in response to India's CSD] have highlighted the insufficiency of India's no-first-use policy to deter Pakistan's destabilizing strategy. For one thing, this policy articulation frees Pakistan of the uncertainty and angst that India might contemplate the preemptive use of nuclear weapons to deal with terrorist attacks or limited conventional strikes by Pakistan. Pakistan could also go to the extent of deploying its short-range *Nasr* missile without being concerned that India would target it with its own nuclear missiles. For another, the determinism inherent in India's nuclear doctrine that any level of nuclear attack will invite massive retaliation is too extreme to gain much credibility. It defies logic to threaten an adversary with nuclear annihilation to deter or defend against a tactical nuclear strike on an advancing military formation.[24]

Rajesh Gopalan, a professor at Jawaharlal Nehru University, also notes that 'it [Indian NFU] frees Pakistan from fearing an Indian nuclear riposte to either terrorism or limited war.'[25] Therefore, revision of India's NFU policy can be an effort to explore the possibility of brandishing its nuclear deterrent against Pakistan and revitalising its conventional superiority. India's nuclear deterrent is perceived to be ineffective against terrorist activities of non-state actors [NSAs] (which India likes to assume are always Pakistan-sponsored) which is not the role a nuclear deterrent ought to play.

If India reverses its NFU commitment because of the current state of its capabilities, it will not be a suitable option because its nuclear deterrence vis-à-vis Pakistan and China has not thus far failed, even in situations when it was not operationalised. Now that its nuclear forces

[24] Chari, "India's Nuclear Doctrine: Stirrings of Change."
[25] Rajesh Rajagopalan, "India's Nuclear Doctrine Debate" (Washington, D.C.: Carnegie Endowment for International Peace, 2016), http://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950.

have matured, a change in its NFU policy could indicate motivations beyond deterrence.

It is important to consider that even with a change in its NFU policy, India may still not be able to prevent so-called terrorist attacks inside its territory through nuclear deterrence. In fact, a change in its NFU policy may not prevent sub-conventional warfare amongst the two states. The NFU policy in the Indian doctrine cannot be changed in isolation. It will also oblige India to revise its doctrine of massive retaliation as well.

India's abandonment of its NFU, along with maintaining superior conventional capabilities, could be aimed at reducing Pakistan's existing ability to use its NWs in its defence. However, the assumption that any future terrorist activity inside India would invariably have Pakistan's involvement can be both dangerous and destabilising. Maintaining deterrence stability is a common interest of both countries. It is not correct to assume that Pakistan would definitely exploit the stability-instability paradox to the detriment of India.[26]

Adoption of inappropriate and costly means for achieving certain political and diplomatic ends can be disastrous for the two nuclear-armed neighbours. Interestingly, a change in the Indian NFU policy may not physically change any particular capability, but would only change the perception about how and for what purposes India desires to use its nuclear capabilities. Such a revision could lead to massive expansion for preparations of pre-emptive first-strike against Pakistan.

India is also increasing its capabilities for counterforce nuclear operations with its Short-Range Ballistic Missile (SRBM) systems like *Prahaar*.[27] Just like New Delhi does not take Beijing's NFU pledge seriously, it is natural that Pakistan would find the former's NFU incredulous, and take all measures against possible pre-emption during crises. If India declares revision of its NFU policy, Pakistan's threat perception would become clearer and is likely to compel it to consider all options like expanding its nuclear arsenal and adopting higher alert levels

[26] Which means that since Pakistan is certain that there is stability at the strategic level; it tends to exploit and create instability at the lower levels.

[27] Although India maintains that this is a conventional capable tactical missile, however, its Defence Research and Development Organization's (DRDO) states that it plans to replace its nuclear capable *Prithvi* missiles with the more capable *Prahaar*. It is not clear as to why India would replace a nuclear-capable missile with a conventional one.

in order to deter pre-emption. In his seminal work on command and control (C2) in emerging nuclear states, Feaver notes that threat of pre-emption can cause the threatened state to adopt a decentralised C2 system, which can prove to be deadly in case of failure.[28]

Massive Retaliation

Massive retaliation was the first doctrine that the US adopted in order to deter, what it perceived as the threat of an overwhelming conventional attack by, the former Soviet Union. The basic idea was to deter the Soviets by signalling a clear political intent of the United States (US) as well as demonstrating credible nuclear arsenal to inflict unimaginable costs. Similarly, India promises a massive retaliatory strike in response to use of any weapon of mass destruction (WMD) on its territory or against its forces anywhere.[29] Like its NFU, the massive retaliation policy is being questioned in several circles within India and internationally.[30] Various informed experts consider the efficacy of this Indian threat to be unconvincing. According to an expert on South Asia, 'no nuclear doctrine can be persuasive when the use of NWs seems incomprehensible.'[31] In the absence of a large and credible conventional military threat, the Indian threat of massive retaliation does not hold much water. Notwithstanding its nuclear deterrence, with its large conventional force, India assumes it can sufficiently damage Pakistan. In the absence of a Cold Start-like doctrine or war plan on the part of Pakistan against India, it does not make sense for New Delhi to adopt the FU policy against a state with relatively weaker conventional military capabilities.

India's technological trends indicate that it is developing SRBMs that could be used more readily. One indicator is that its Defence Research

[28] Peter D. Feaver, "Command and Control in Emerging Nuclear Nations," *International Security* 17, no. 3 (1992): 160-187, doi: 10.2307/2539133.
[29] Ministry of External Affairs, Government of India, "The Cabinet Committee on Security Reviews [O]Perationalization of India's Nuclear Doctrine."
[30] Ali Ahmed, *The Illogic of 'Massive' Punitive Retaliation* (New Delhi: Institute of Peace and Conflict Studies, 2009), http://www.ipcs.org/article/nuclear/the-illogic-of-massive-punitive-retaliation-2905.html (link discontinued).
[31] Michael Krepon, "Massive Retaliation," *Arms Control Wonk,* April 1, 2014, http://krepon.armscontrolwonk.com/archive/4099/massive-retaliation-2.

and Development Organization (DRDO) has stated that it was replacing the liquid-fuelled *Prithvi* ballistic missile with the solid-fuelled *Prahaar*. Considering *Prithvi* is internationally known as a nuclear delivery system, it does not make sense to replace a nuclear delivery system with a missile that carries only a conventional warhead. *Prahaar* is touted to be a quick reaction missile system, which can be launched in a salvo of upto six missiles in quick succession.[32] If this is a nuclear capable missile, then this could mean that India is moving towards a strategy other than massive retaliation which is generally believed to be used for countervalue targeting. If it is not, then it could mean that India is opting for more accurate conventional missiles to launch pre-emptive strikes once Pakistan deploys its short-range missiles in a crisis. The second case, however, makes less sense given availability of more accurate and longer range – and hence safer – *BrahMos* conventional cruise missiles. Thus, with a superior conventional force, BMD system and an assured second-strike capability, India may move towards a doctrine, which looks more like a countervailing strategy of the US, where the latter wanted to assure Soviets that no course of aggression by them that led to use of NWs, on any scale of attack and at any stage of conflict, could lead to victory, however they may define victory.[33]

Another reason behind the questions over the credibility of the Indian doctrine of massive retaliation is the introduction of Pakistan's Tactical Nuclear Weapons (TNWs)/ SRBMs. The Indian threat of massive retaliation is not considered to be credible against low-scale and defensive NWs' use as it defies the logic of proportionality. Indian officials in their private capacity have reiterated that the country does not distinguish

[32] Defence Research and Development Organization, Government of India, "Prahaar: New Surface to Surface Tactical Missile Successfully Launched," press release, July 21, 2011, http://drdo.gov.in/drdo/English/PressReleasePraharnew.pdf (link discontinued).

[33] US Congress, Office of Technology Assessment, "Deterrence, U.S. Nuclear Strategy, and BMD," in *Ballistic Missile Defense Technologies*, report (Washington, DC: U.S. Government Printing Office, 1985), 77.

between a tactical and a strategic nuclear attack, and that its response would, without a doubt, be based on massive retaliatory nuclear strikes.[34]

Furthermore, it needs to be contextualised that India pronounced this doctrine of massive retaliation in 2003 when Pakistan's military nuclear programme was quantitatively and qualitatively at a nascent stage. The country's nuclear programme has evolved over time with introduction of diverse delivery means and an increase in nuclear arsenal. During these times, India could have been aiming to take out Pakistan's limited nuclear forces in a massive retaliatory strike and restrict further use of its NWs. However, in contemporary situation, expectation of such outcomes would be unrealistic.

If India changes its NFU policy, then it would not be able to maintain its doctrine of massive retaliation, because this has to be in response to FU of NWs by an adversary. Furthermore, retaining massive retaliation, despite revision in the NFU policy, would not make sense as it would undermine the rationale for revision – since the stated rationale for revision, as discussed in the section above, seeks to threaten pre-emption to cater for Pakistan's perceived destabilising strategies. A workable option for India would be to launch a swift but limited conventional military strike against Pakistan, and back it up with the FU option. However, that is not likely to deter Pakistan from employing its nuclear option, if it considers its vital national interests as being threatened. Thus, it would still not allow India to achieve its eventual political goal of wearing Pakistan. On the other hand, such an aggressive Indian nuclear posture may prompt Pakistan to move towards a higher level of nuclear readiness.

Credible Minimum Deterrence (CMD)

The Indian nuclear doctrine is based on the principle of maintaining CMD. However, there is a caveat that minimum is not a static concept,[35]

[34] Shayam Saran, "Is India's Nuclear Deterrent Credible?" (speech, New Delhi, April 24, 2013), South Asia Monitor, http://southasiamonitor.org/detail.php?type=pers&nid=4987.

[35] Jaswant Singh, "I Believe this Country cannot be Constructed through Demolitions," interview by Prabhu Chawla and Raj Chengappa, *India Today*, January 11, 1999,

and there is a degree of dynamism associated with evolving security threats.[36] Apparently, in the absence of a threat to its nuclear forces and its stated commitment towards negotiating the FMCT makes it difficult for India to revise the current policy of CMD. BJP's pre-election manifesto also reaffirmed its commitment of maintaining CMD. Focus on increasing credibility and change in posture implies that India would become less enthusiastic in arms control or disarmament. It is likely that India may continue to maintain, at least in terms of its diplomatic stance, the principle of CMD. This notion is difficult to independently verify and easy to sell while deterring both Pakistan and China. Two studies highlight India as having the largest unsafeguarded nuclear programme. One study points out that even at 50 per cent capacity, India can separate about 756 kg of weapons-grade plutonium (WGPu) and 5.67–7.839 tonnes of reactor-grade plutonium (RGPu).[37] This WGPu would suffice for 189 nuclear warheads (assuming 4 kg of WGPu per warhead), and 708-979 reactor-grade plutonium (RGPu)-based warheads (assuming 8 kg of RGPu per warhead). The other study estimates that the country has the capability to produce up to 2686 nuclear warheads.[38] Such estimates make India the third largest NWS in the world, and this by no means conforms to its claim of minimalism.

The Dependent Policies

India's policies on issues like FMCT, a nuclear-weapons-free world, NC2 and nuclear testing may be categorised as the 'dependent policies.' All the

https://www.indiatoday.in/magazine/interview/story/19990111-i-believe-this-country-cannot-be-constructed-through-demolitions-jaswant-singh-779849-1999-01-11.

[36] Naeem Salik, *Minimum Deterrence and India Pakistan Nuclear Dialogue: Case Study on Pakistan* (Como: Landau Network-Centro Volta Publications, 2006), accessed December 26, 2014, http://www.difesa.it/SMD_/CASD/IM/CeMISS/Pubblicazioni/Documents/21562_ricerca_rpdf.pdf.

[37] Sameer Ali Khan, "Indian Nuclear Reprocessing Program," in *Indian Unsafeguarded Nuclear Program: An Assessment* (Islamabad: Institute of Strategic Studies, 2016),135.

[38] Mansoor Ahmed, "India's Nuclear Exceptionalism: Fissile Materials, Fuel Cycles, and Safeguards" (paper, Belfer Center for Science and International Affairs, Harvard Kennedy School, Cambridge, 2017), https://www.belfercenter.org/sites/default/files/files/publication/India%27s%20Nuclear%20Exceptionalism.pdf.

nine elements of India's nuclear doctrine (NFU, massive retaliation, CMD, commitment to FMCT, commitment to nuclear-weapons-free world, nuclear testing, Nuclear Command Authority [NCA], Negative Security Assurances [NSAs], and strategic export controls), are mutually interdependent. While prospective changes may apparently come in the three main issues discussed earlier, they would affect the others as well. Nuclear testing, however, is an issue, which may compel India to resume testing, as part of its requirement to fully operationalise its nuclear arsenal. These policies serve the country's interest of maintaining a liberal façade, while not making any legal commitments that would restrict its nuclear options.

Fissile Material Cutoff Treaty (FMCT)

Since 2003, India has shown its willingness to negotiate a FMCT, which would ban future production of fissile materials for military purposes. Interestingly, New Delhi asserts that it will not negotiate such a treaty if it is against its national security interests.[39] It has never explained that its national interest would be to give statements only because concluding such a treaty would limit the growth in its nuclear delivery options, like the need for keeping a triad of forces and ability to massively retaliate. Already, a number of influential people in India suggest that it should not agree to any arms control arrangements like the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and FMCT.[40] Changes in the three main pillars of its nuclear doctrine are also likely to increase those requirements and the Indian stance on the above treaties may also witness a change. However, this change may not become visible unless the process at the Conference on Disarmament (CD) overcomes the current *impasse* which allows India a cover where it can continue to support as long as its support

[39] Embassy of India, Government of India, "Statement on FMCT by Ambassador Venkatesh Varma India's Permanent Representative to the CD," statement, accessed December 26, 2014, https://realityworld.trade/cdgeneva/?3884?000&__cpo=aHR0cDovL21lYWluZGlhLm5pYy5pbg.

[40] Bharat Karnad, "India's Nuclear Amateurism," *The Security Wise Blog*, June 28, 2013, http://bharatkarnad.com/2013/06/28/indias-nuclear-amateurism/.

does not lead to any substantial outcomes. India's statement over the FMCT in 2009 came[41] when Pakistan had hinted that it may support a treaty on fissile materials.

India is already enroute to diversifying its nuclear delivery options, by developing SRBMs, Multiple Independently Targetable Reentry Vehicles (MIRVs) and Submarine-Launched Ballistic Missiles (SLBMs), which would require it to enhance its fissile material stocks. However, if the recent estimates about its fissile materials are close to reality, the country's opposition to the FMCT might change.

Commitment towards Nuclear-Weapons-Free World

After President Obama's Prague speech in April 2009, the idea of a world free of NWs gained impetus. A milestone treaty between the US and Russia followed the speech, which obliged the two states to significantly reduce their deployed nuclear warheads. However, President Obama had made clear that the US would maintain a credible deterrent until other states continue to possess NWs, and would seek to engage other NW possessor states for future arms control arrangements.[42] Likewise, Russia has made it clear that any such future arrangement must be multilateral.[43] These limitations are best explained by the term 'security tri-lemma' where actions taken by one state to protect itself from a second make a third feel insecure.[44] Russia's concerns are understandable because of its threat perception from the two North Atlantic Treaty Organization (NATO) members – France and the UK – possessing NWs, and the US. However, China's threat perception is cognizant of the Indian threat, besides the recognised NWSs. Thus, if India chooses a path of nuclear

[41] Embassy of India, Government of India, "Statement on FMCT by Ambassador Venkatesh Varma India's Permanent Representative to the CD."

[42] Barack Obama, "Remarks by President Barack Obama in Prague as Delivered" (speech, Prague, April 5, 2009), White House, https://obamawhitehouse.archives.gov/the-press-office/remarks-president-barack-obama-prague-delivered.

[43] "Russia Calls for Multilateral Nuclear Cuts," *Sputnik International*, May 28, 2013, https://sputniknews.com/world/20130528181378655-Russia-Calls-For-Multilateral-Nuclear-Cuts/.

[44] Gregory D. Koblentz, *Strategic Stability in the Second Nuclear Age*, report no. 71 (New York: Council on Foreign Relations, 2014), http://www.cfr.org/nonproliferation-arms-control-and-disarmament/strategic-stability-second-nuclear-age/p33809.

armament and abandons the policy of CMD in spirit - future arms control arrangements are likely to encounter serious hurdles. Also, if it resumes nuclear testing, that would again be another serious setback to the objective of a nuclear-weapons-free world. That said, India is likely to maintain its stated diplomatic support to this vision and continue to engage with other NWSs in 'good faith' over the issue of global nuclear disarmament.

Nuclear Testing

In order to develop and maintain a credible deterrent, states must test the warhead designs for their delivery means. When a nuclear power like the US, which has conducted more than 1000 nuclear tests thus far, is not ready to ratify the CTBT,[45] the reticence of newer nuclear-armed states is understandable.

Any significant change in India's nuclear doctrine may also change its policy towards maintaining moratorium on nuclear testing. If it is to be believed that the Indian acquisition of nuclear capability was driven by a desire for prestige and status, then India may even opt for thermonuclear testing in the future. However, under current situation, including India's growing strategic partnership with the US, makes it highly unlikely that it would resume nuclear testing, at the cost of various other international interests. The resumption of nuclear testing may harm India's bid to become a member of the Nuclear Suppliers Group (NSG), and play an active role in global politics. It remains to be seen how India will look at issues like nuclear testing once it has secured its membership of export control regimes and has fewer limitations.

Nevertheless, any change in its current nuclear doctrine of massive retaliation would require India to develop lower yield NWs. The warhead designs for its SLBMs and MIRVs may also be technically different. Such structural issues would require India to develop, and if possible test new designs for these newer roles. India can opt for computer simulations and cold testing. However, there were reports of Indian scientists claiming that

[45] Daryl Kimball, *The Nuclear Testing Tally*, fact sheet (Washington, D.C.: Arms Control Association, 2015), https://www.armscontrol.org/factsheets/nucleartesttally.

the country's thermonuclear test was a failure.[46] Therefore, a few nuclear scientists suggest that India should keep the option of resuming nuclear testing open and not sign the CTBT.[47] Analysts believe that this could be an attempt to provide a rationale for resumption of nuclear testing in view of its expanding enrichment capabilities and construction of a dedicated 'nuclear city' in Karnataka.[48]

In order to uphold the credibility of its deterrence and gain confidence in the designs of its nuclear warheads, India can also conduct hot tests. In case New Delhi decides to follow the first use option, it would need to develop greater number of low yield NWs, for decapitating nuclear strikes and for the purpose of damage limitation. This could prompt it to test such weapon designs, for establishing credibility of this option, besides massive retaliation.

Nuclear Command Authority (NCA)

Only India's civilian political leadership can authorise the nuclear option through the NCA.[49] This arrangement is highly unlikely to change given the strong democratic political system in the country. With a change in its doctrine, however, India may need to update its C2 system and integrate its military forces within the decision-making structure. There are recommendations that India should have a full-time Chairman of the Joint Chiefs of Staff Committee maintaining operational control of its nuclear

[46] Sachin Parashar, "Pokhran II Not Fully Successful: Scientist," *Times of India*, August 27, 2009, https://timesofindia.indiatimes.com/india/Pokhran-II-not-fully-successful-Scientist/articleshow/4938610.cms.

[47] Ibid.

[48] For details, see Ahmad Khan, "Indian Uranium Enrichment Capability and Future Requirement," in *Indian Unsafeguarded Nuclear Program: An Assessment* (Islamabad: Institute of Strategic Studies Islamabad, 2016), 71-72; and "Don't Say the N-Word in Karnataka," *Friday Times*, October 21, 2016, http://www.thefridaytimes.com/tft/dont-say-the-n-word-in-karnataka/.

[49] Kerry Boyd, "India Establishes Formal Nuclear Command Structure" (Washington, D.C.: Arms Control Association, 2003), https://www.armscontrol.org/act/2003_01-02/india_janfeb03; and Praveen Swami, "Modi Briefed on Nuclear Command Structure," *Hindu*, June 4, 2014, http://www.thehindu.com/news/national/modi-briefed-on-nuclear-command-structure/article6079430.ece.

arsenal.[50] A prospective change in doctrine may necessitate more participation of the military in nuclear decision-making - a need that is also going to be prompted by India's induction of its ballistic missile submarine *SSBN Arihant*. India may still not necessarily adopt a delegative NC2 structure in terms of decision-making, but could require an earlier operational role of their military commanders.[51] It may, then, become an operational necessity for India to strike the right balance between the always-never dilemma, and also make its nuclear threat more potent and credible. Besides, it remains to be seen if India is to actually deploy its ICBM, *Agni-V* in a cannisterised form. A cannisterised ICBM could require mating the missile with a nuclear warhead before it is cannisterised. This would indicate another departure from the earlier Indian policy of keeping its warheads de-mated.[52]

Unlike Pakistan, India's NCA does not currently have a permanent secretariat; and the Strategic Forces Command (SFC) currently acts as its advisor. There is domestic criticism over the state-of-affairs at the SFC and its competence.[53] India may want to rectify this and take measures in this regard.

The Independent Policies

Even if India revises its nuclear doctrine, there are some aspects that are independent and may not be affected as a result of doctrinal change. Such aspects include those issues on which the relevant policies do not automatically oblige it to reconsider or change its position implicitly or explicitly like Negative Security Assurances (NSAs). Two independent

[50] Manu Pubby, "India may soon have Chief of Defence Staff," *Economic Times*, July 11, 2018, http://economictimes.indiatimes.com/news/defence/india-may-soon-havechief-of-defence-staff/articleshow/49762327.cms.

[51] Abhijit Iyer Mitra, "Massive Retaliation," *South Asian Voices* April 16, 2014, http://southasianvoices.org/massive-retaliation/.

[52] Gaurav Kampani, "India's Evolving Civil-Military Institutions in an Operational Nuclear Context" (Washington, D.C.: Carnegie Endowment, 2016), http://carnegieendowment.org/2016/06/30/india-s-evolving-civil-military-institutions-in-operational-nuclear-context-pub-63910.

[53] Bharat Karnad, "Dedicated Nuclear Cadre," *The Security Wise Blog*, August 16, 2012, http://bharatkarnad.com/2012/08/16/dedicated-nuclear-cadre/.

policies are discussed below. Though India does not significantly gain anything from holding on to these principles, yet, its international status or diplomatic position may be at stake if it brings about any change in these areas:

Negative Security Assurances (NSAs)

India offers NSAs to the NNWSs which are non-aligned to any other NWS. India's pledge of non-use of NWs against a NNWS is likely to continue in the foreseeable future. With its growing importance in international politics, interest in joining the strategic export control regime and its bid to improve relations globally, New Delhi may not want to revoke its NSAs. Furthermore, revoking them could also disturb its growing relationship with regional NNWSs like Iran, Afghanistan, and Sri Lanka etc. Removing this condition could also handicap the country from coercing these states, in order to prevent them from looking towards Pakistan or China.

Strategic Export Controls

According to the realist paradigm, although India itself misused its civilian nuclear facilities to conduct the 1974 nuclear explosion, yet, there is no reason to believe that it would approve of any other state to do the same. It is likely to continue observing strict strategic export controls to ensure staying aligned with the requirements of the multilateral export control regimes (i.e., the NSG, Missile Technology Control Regime [MTCR], Wassenaar Group [WG] and Australia Group [AG]). India has been advocating horizontal nonproliferation and continues to maintain this position at various forums.[54] However, some studies suggest that India is linked to the proliferation of ring magnets to Iran.[55] Nevertheless, there is no evidence to suggest state involvement to date. No NWS, at this point in

[54] "No Possibility of Joining Nuclear Treaty as a Non-Weapons State: India," *NDTV*, October 13, 2017, https://www.ndtv.com/india-news/india-wont-sign-nuke-treaty-as-non-nuclear-weapon-state-1762427.

[55] David Albright, *Ring Magnets for IR-1 Centrifuges*, report (Washington, D.C.: Institute for Science and International Security, 2013), http://isis-online.org/uploads/isis-reports/documents/iran_ring_magnet_13Feb2013.pdf.

time, could have any incentive to expand the nuclear club. Apparently, the NPT NWSs and the outlier nuclear weapon possessor states seem to have a strong consensus on horizontal nuclear nonproliferation.

Forecasting the Doctrinal Changes

The BJP will have to take into account several factors while considering any change in the country's nuclear doctrine. It will have to consider how a certain change may affect its bid for membership of the four export control regimes (NSG, MTCR, WG and AG), and its aspiration for permanent membership of the United Nations Security Council (UNSC). It may not be politically feasible for India to bring about an explicit change in the doctrine given the liberal outlook it maintains in its international engagements. At this point, India's bilateral relationships are also going to be a deciding factor. Lately, India had to assure Japan that it does not intend to revise its NFU policy in order to ensure that its partnership with Tokyo is not affected.[56] It is possible that India may choose to signal a doctrinal change through dilution of already stated policies. Indian officials have already been issuing statements to this effect.[57]

Despite its diplomatic considerations, it is likely that India would want to change its policy of NFU and massive retaliation. However, these changes are unlikely to be explicit and through promulgation of another revised document on Indian doctrine. Indian officials may make policy statements here and there, diluting these two aspects. This is going to be further reinforced through developments which may not appear in-sync with policies of massive retaliation and NFU.

[56] Indrani Bagchi, "India not Revisiting its Nuclear Doctrine, Modi Assures Japan," *Times of India*, August 30, 2014, https://timesofindia.indiatimes.com/india/India-not-revisiting-its-nuclear-doctrine-Modi-assures-Japan/articleshow/41231521.cms.

[57] Shivshankar Menon, "The Role of Force in Strategic Affairs" (speech, New Delhi, October 21, 2010), Ministry of External Affairs, Government of India. According to its NSA, India has the NFU policy against non-nuclear weapon states.

Declared Nuclear Doctrine and Strategic Developments

While comparing the elements of India's declared nuclear doctrine with strategic developments on ground, it appears that several developments are not in conformity with the latter in particular domains. In this regard, four particular developments need to be studied:

1. development of short- and long-range missile systems,
2. cannisterisation of missiles,
3. move from liquid to solid fuelled missiles, and
4. huge unsafeguarded fissile material stocks.

India's inventory, of nuclear delivery systems, indicates that it has options for use in counterforce and countervalue settings. While the long-range *Agni* missiles may be used in a countervalue role, the short-range missiles like *Prithvi*, *Prahaar*, *Dhanush* and *BrahMos* offer use in counterforce role. Given India's ever-increasing Intelligence Information Surveillance and Reconnaissance (I2SR) capabilities counterforce nuclear operations cannot be ruled out. Development of shorter range missiles with ranges as low as 70 and 150 km (*Pragati* and *Prahaar*) do not appear to be in conformity with the country's policy of massive retaliation which is classically seen as a countervalue strategy. Furthermore, with the testing of *Agni-V*, it was argued that this missile, with a range of 5000 km, allows India to hit China's mainland.[58] However, prospective missiles like *Agni-VI*, with a range of over 10000 km,[59] manifest that its ambitions go beyond China. Such developments pose serious questions to New Delhi's proclaimed policies of minimalism while pursuing a credible deterrent.

As has been discussed earlier, cannisterisation of missiles is an issue that raises concerns on this doctrinal position. In a cannisterised mode, the missile is likely to be mated with a nuclear warhead. An anonymous source cited by *Times of India* concurs:

[58] "Agni-5 can Deliver a Nuclear Bomb Anywhere in China," *Rediff.com*, December 27, 2016, http://www.rediff.com/news/special/agni-5-can-deliver-a-nuclear-bomb-anywhere-in-china/20161227.htm.

[59] Franz-Stefan Gady, "India Tests Most Advanced Nuclear-Capable ICBM," *Diplomat*, January 18, 2018, https://thediplomat.com/2018/01/india-tests-most-advanced-nuclear-capable-icbm/.

> Since the missile is already mated with its nuclear warhead before being sealed in the canister, it drastically cuts down the response or reaction time for a retaliatory strike.[60]

The source further adds, 'only the authorised electronic codes have to be fed to unlock and prime it for launch.'[61] Nonetheless, even mating of missiles would be a departure from the current known position of keeping its warheads in a de-mated form where the possession of warheads has been known to reside with scientific agencies.[62] A mated and cannisterised missile would mean physical custody of Indian NWs with its SFC.

Coupled with cannisterisation of missiles, a move from liquid to solid-fuelled missiles is another step towards higher readiness, and consequently, higher alert levels. Ideally, a state with an NFU policy would not like to keep its nuclear warheads mated with the delivery systems. This is primarily because such a delivery system (mated with a nuclear warhead) would be an ideal target for pre-emption, and hence, create instability.

The section on India's CMD policy provides some estimates on its stocks of unsafeguarded fissile materials – available for use in its military programme. These estimates make India the third largest possessor of unsafeguarded fissile materials. Such a potential nuclear force would go beyond any reasonable parameters of CMD – however it may be defined.

Changes in India's Nuclear Doctrine and Possible Implications

> [A nuclear doctrine] is the principle of belief or bedrock on which organisational and force structures are built. It provides the guidelines for force configuration and the nature, type and number of weapons and delivery systems that would be needed to implement the doctrine.[63]

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[60] Rajat Pandit, "Entire China Could Soon be within India's N-Strike Zone," *Times of India*, January 19, 2018, https://timesofindia.indiatimes.com/india/entire-china-could-soon-be-within-indias-n-strike-zone/articleshow/62561943.cms.

[61] Ibid.

[62] See for further details, Kampani, "India's Evolving Civil-Military Institutions."

[63] Naeem Salik, *The Genesis of South Asian Nuclear Deterrence* (London: Oxford University Press, 2010), 219.

While Pakistani officials are known to have displayed lack of trust in India's doctrinal commitments, the NFU commitment possibly allows Pakistan to keep its delivery means and nuclear warheads in a de-mated form. Both India and Pakistan are believed to be keeping their nuclear warheads in a de-mated form.[64] In a situation where India is introducing SSBNs and cannisterised missiles, while mulling over the possibility of a comprehensive first-strike; it might not be able to continue with this practice of keeping its warheads in de-mated form.[65] Likewise, it would be difficult for Pakistan to stick to such a posture when it is faced with an adversary that has ready and mated arsenal; does not subscribe to the NFU policy; and is mulling over the possibility of a comprehensive first-strike. This could, then prove to be the first step towards higher preparedness and alert levels.

Such a situation is also likely to prompt Pakistan to adopt ways and means to discourage a pre-emptive strike for which enhanced dispersal, deception, expansion, mobility, diversity, and a decentralised C2 would be few obvious choices available. The Cold War lessons indicate that these options can be risky. However, the onus of not forcing Pakistan in such a direction would remain with India.

Recent border conflicts between India and China indicate that despite significant bilateral economic ties, the two states can still resort to use of force. It remains to be seen how China would choose to address India's non-subscription to an NFU and a prospective doctrine that would ostensibly aim to achieve escalation dominance. If China takes into account India's large unsafeguarded stocks of fissile materials and potentially the third-largest nuclear capability; it might be forced to re-consider its NFU pledge. Any reactionary change in Chinese nuclear posture is unlikely to go unnoticed in Washington which might want to enhance its options against Beijing. This situation is likely to rekindle a

[64] Franz-Stefan Gady, "Does Pakistan have more Nuclear Warheads than India?" *Diplomat*, June 14, 2016, https://thediplomat.com/2016/06/does-pakistan-have-more-nuclear-warheads-than-india/.

[65] Tanzeela Khalil, "Missile Restraint, India and Pakistan," *News International*, January 4, 2017, https://www.thenews.com.pk/print/176544-Missile-restraint-India-and-Pakistan; and Sameer Ali Khan and Tanzeela Khalil, "Indian Nuclear Doctrine: Clash or No Clash," *News International*, December 17, 2016, https://www.thenews.com.pk/print/172396-Indian-nuclear-doctrine-clash-or-no-clash.

global nuclear arms race. Therefore, India must be cognizant of the unwanted consequences of any changes in its nuclear doctrine, while trying to address the issues which predominantly fall outside its domain i.e., conflict resolution with its neighbours.

Conclusion

Although there is some background and a rationale is being presented for change in the three major tenets of India's nuclear doctrine, i.e., NFU, massive retaliation and CMD, the latter appears to be flawed and debatable. It tends to define a role for nuclear weapons that they are not meant to play in the first place. A change in any of these three tenets may not be the suitable means to achieve the desired end of deterring terrorist attacks or nuclear first use by an adversary. A standalone change in any of these three tenets is also not possible, e.g., if India changes its NFU or massive retaliation policies, it would necessitate a reciprocal change in other areas as well such as changing the four dependent Indian positions towards a robust NC2, negotiating the FMCT, moratorium on nuclear testing and commitment to support the global efforts for a nuclear-weapons-free world – which are otherwise unlikely to change in isolation. Furthermore, any change in its policy of NFU would mean a deviation from the stated rationale for its NWs i.e., self-defence and insurance against nuclear coercion.

However, the policies over NSAs and strategic export controls, which have been discussed as independent considerations, are unlikely to change. This is because these policies are not driven by operational considerations of its nuclear doctrine. It is more likely that India will enhance its nuclear arsenal and its delivery means, in order to increase the credibility of its current stated nuclear doctrine, rather than to revise it. This Indian approach is likely to have negative implications for South Asia's deterrence stability, but not as dire as those which could otherwise result from the revision of its nuclear doctrine.

If there are any doctrinal changes, the operational requirements that India will then have to fulfill would have far greater negative consequences on deterrence stability vis-à-vis Pakistan, and would carry a

far greater diplomatic cost. It would require India to adopt a more aggressive nuclear posture besides significantly increasing its nuclear arsenal and diversifying its nuclear delivery means. This, in turn, would also adversely affect vertical nuclear nonproliferation and harm the prospects of a nuclear-weapons-free world. In view of the greater diplomatic cost, presently inconsistent with the Indian ambition to rise as a major power, the BJP or any other future Indian government, are unlikely to consider any major revision in the declared nuclear doctrine.

The nuclear policies of the US and the former Soviet Union during the Cold War cannot be replicated in the South Asian environment. Nevertheless, their policies have been useful in preventing all out and direct wars. What is desirable in South Asia is to learn the right and relevant lessons. Nuclear weapons could not prevent the two Cold War rivals from engaging in an arms race, spying, and initiating proxy wars against each other. Likewise, it is important for the South Asian nuclear powers to recognise the limitations of such weapons, in terms of their utility against certain types of threats, but not all threats. Thus, new NWSs should not attempt to use their weapons for purposes, which even the super powers failed to accomplish.■