



Back to Basics: Pledging Nuclear Restraint

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Editor's note: This essay is part of an initiative launched by the Stimson Center's South Asia Program, which we call the Off Ramps Project. The nuclear competition among China, India and Pakistan is accelerating with the introduction of new ballistic and cruise missiles. Counterforce capabilities are growing. China has begun to place multiple warheads on some of its ballistic missiles, Pakistan has advertised its ability to do so, and India has demonstrated this capacity in its space program. Diplomacy is dormant as these and other nuclear capabilities expand. What to do? Stimson has asked rising talent in this field, as well as a few veterans, to offer creative ideas that can help ameliorate and decelerate this dangerous triangular nuclear competition.

Introduction

China has been a nuclear-weapon state for slightly more than five decades. Beijing has approached nuclear deterrence from a minimalist perspective, eschewing large stockpiles and launch on warning or launch under attack postures even when faced with two antagonistic superpowers. Embracing no first use (NFU) and emphasising the political nature of the weapon, China has maintained a low nuclear profile and a relaxed pace of modernization. Over the last decade, however, Beijing's nuclear modernization programs have picked up in speed and variety, including operationalization of the new *Jin*-class nuclear-powered submarines, deployment of multiple independently-targetable re-entry vehicles (MIRVs) and perhaps manoeuvrable re-entry warheads (MARVs) atop its missiles, dual-use cruise missiles, research and development of hypersonic missiles, and the fast-expanding use of space capabilities to improve intelligence, surveillance, and reconnaissance (ISR). How far these developments will take China from its long-articulated minimalist deterrence strategy is unclear.

India is about to complete two decades as a nuclear armed state. This period has been spent operationalizing its nuclear deterrent: building a modest stockpile of an estimated 110-120

warheads, testing and inducting missiles of variable ranges, and moving towards a tentative triad capability with its first nuclear powered submarine, the INS *Arihant*.¹ These activities are based on a nuclear doctrine that India's National Security Advisory Board (NSAB) drafted in August 1999, and which was subsequently endorsed, retaining most of its features, by the Indian government in 2003. The doctrine made it clear that India would develop "sufficient, survivable, and operationally prepared nuclear forces, a robust command and control system, effective intelligence, and early warning capabilities"² to ensure "maximum credibility, survivability."³ Survivability was emphasised through a "combination of multiple redundant systems, mobility, dispersion and deception."⁴ Under this plan, India has built a credible arsenal and a set of requisite capabilities to satisfy its concept of credible minimum deterrence (CMD).

Pakistan, meanwhile, appears to have chosen a more ambitious nuclear posture called "full spectrum deterrence." Explicitly tasked with the purpose of deterring a conventional war with India, Pakistan's nuclear posture appears to place importance on nuclear warhead numbers and counterforce capabilities, including short-range systems like the *Nasr* to be used on the battlefield.⁵ It has also announced a sea-based deployment of nuclear-tipped missiles on surface vessels and/or diesel electric powered submarines, ostensibly to enhance survivability.

Faced with growing strategic capabilities across its borders on the east and west, India has two choices. It could choose to compete with Chinese and Pakistani strategic modernization programs, particularly with respect to developing matching counterforce capabilities, or it could reaffirm its nuclear posture of CMD and resist being sucked into the counterforce competition. Indeed, the most stabilizing and least expensive choice for New Delhi, and for the region, would be to avoid a nuclear competition in building counterforce capabilities. Is this possible? This Off Ramps essay recommends that India take the lead in pledging nuclear restraint based on a recognition of the basics of nuclear deterrence, and challenge China and Pakistan to follow suit.

The Logic of Nuclear Sufficiency

India can wield substantial influence to help stabilize a dangerous triangular competition by rejecting a nuclear war-fighting posture and refusing to be drawn into a competition with China and Pakistan to build counterforce capabilities. The three nuclear-armed states have, or are close to having, their own versions of secure second strike capabilities that should suffice for credible deterrence. If the logic of sufficiency were to apply, the three should refrain from moving further towards capabilities that could only foster deterrence instability. The United States and Soviet Union crossed similar thresholds in their Cold War competition, and the results should be instructive. It is worth recalling that David Lilienthal, Chairman of the U.S. Atomic Energy Commission, resigned from this position in 1949 when the United States decided to develop the hydrogen bomb for nuclear war-fighting. Criticizing the competition for destructive power with the Soviet Union, he commented, "Where this will lead us is difficult to see. We keep saying, 'we have no other course.' What we should be saying is 'we are not bright enough to see any other course.'"⁶

Will China, India, and Pakistan be "bright enough" to choose a prudent course, or will they move towards inducting and modernizing capabilities that would push them into the next phase of nuclear competition? There is still time to choose wisely, but the warning signs are clear. Rawalpindi's interest in building nuclear war-fighting capabilities is evident, given the

exaggerated role it accords nuclear weapons and the manner in which it links them to its conventional war-fighting strategy. If India joins in this competition, it may lead to never-ending stockpile growth. While some in India have opined that this competition could be one way of bringing Pakistan to financial ruin, the exercise would, however, increase risks associated with growing stockpiles of fissile material and warheads in a politically unstable nation. In waiting for Pakistan to exhaust itself, which may prove a long wait given foreign financial assistance from powerful allies, India's own strategic and financial interests would be harmed as well.

On India's eastern front, Beijing's strategic modernization is driven by growing American conventional and nuclear capabilities. It is unclear whether China will stop at building "sufficiently" secure retaliatory capabilities or march on towards nuclear war-fighting requirements. Some Chinese scholars are wary of their country falling under the spell of the American and Russian maximalist nuclear discourse.⁷ If influenced by these tendencies, China may veer from its long-held deterrence posture of self-sufficiency and minimalism. Beijing has the resources to expend on the new build-up. India's growing economy could also be utilized in this way, but at the expense of critical developmental goals.

The good news for India, however, is that it is not necessary to go down this path -- if one remembers the basics of nuclear weapons and deterrence. Indeed, India has the best chance of influencing Chinese and Pakistani force postures if it were to reaffirm its commitment to these basics and firmly reject the concept of nuclear war-fighting and the capabilities that go with it. This is the time for India to make conscious, informed choices on the utility and disutility of nuclear weapons and appeal to others to recognize the logic of nuclear sufficiency.

Proposal: Back to Basics

I propose that New Delhi publicly pledge that it intends to avoid open-ended growth in warhead numbers and the acquisition of nuclear war-fighting capabilities.⁸ I also propose that New Delhi call on its nuclear-armed neighbors to make similar pledges, whether individually, bilaterally, or trilaterally. Such pledges would be akin to the one made by Presidents Ronald Reagan and Mikhail Gorbachev in 1987 that a nuclear war cannot be won and must not be fought. In the South Asian context, such proclamations would demystify deterrence requirements and stabilize the capability conundrum. *These pledges would actually recall, acknowledge, and accept certain immutable attributes of nuclear weapons that allow for credible deterrence at reasonably low and limited levels of capability.* They would reaffirm three basic propositions:

First, nuclear weapons are distinct from conventional weapons. Instantaneous release of large amounts of energy in the form of blast and thermal heat, ionizing radiation, and long-term radiation from nuclear fallout are natural attributes of nuclear detonations. The empirical data from the destruction wrought on Hiroshima and Nagasaki by a 15 and 20 kiloton (kt) yield nuclear warhead respectively is widely available. Today's warheads are magnitudes of order higher. Lower yields have also been experimented with as one way of reducing the deleterious effects of nuclear explosions. But, a report prepared by the Federation of American Scientists in 2001 concluded that even a ground burst of a nuclear yield as small as one percent of the Hiroshima weapon would "simply blow out a massive crater of radioactive dirt, which rains down on the local region with especially intense and deadly fallout."⁹ Since these weapons are so markedly different from conventional weapons, the numbers required to

cause significant damage are quite small. Parity is not necessary for nuclear deterrence and even a “tactical” use of such a weapon would have grave strategic impacts.

The second reaffirmation of the proposed pledge would be that nuclear weapons are suitable only for deterrence, not war-fighting. The use of Hiroshima-sized and higher yield weapons would cause a humanitarian disaster. The use of low-yield, even sub-kiloton yield weapons, would not only break the taboo against nuclear weapons use but also invite uncontrolled escalation. The United States and the Soviet Union accumulated large-scale stockpiles of varying yields in the hope of gaining the advantage in nuclear exchanges. Yet, neither country was inclined to test this hypothesis when faced with testing times. Rather, many individually and jointly-conducted war games have shown that the concept of limited nuclear war with “surgically precise accuracy” is pure folly. The temptation to build capabilities that seem to hold the promise of achieving success in a limited nuclear war by confining attacks to counterforce targets can only be illusory, downright dangerous, and totally unnecessary.

The third reaffirmation that underlies my proposed pledge is to rule out pre-emptive nuclear attacks as a way of “winning” a war. Such a belief amounts to wishful thinking when the adversary has a secure second strike capability. If survivability is intelligently maximised through diverse methods, no amount of counterforce capability can guarantee a comprehensive disarmament or decapitating strike that would prevent nuclear retaliation. In addition, retaliatory strikes targeting cities with population densities as high as 20,000 people per square kilometer and where the majority of the population lives in flammable and exposed shanties, would negate any benefits of the pre-emptive use of nuclear weapons.

A recognition of these basics should make it possible for New Delhi to vocalize the proposed pledge and appeal to its nuclear-armed neighbours to join in. Pledging restraint on counterforce capabilities could rationalize deterrence requirements and stabilize competition. Deterrence based on the ability to cause unacceptable damage is possible with fairly low warhead numbers atop even low accuracy delivery vehicles. The pursuit of nuclear war-fighting capabilities through the greater accuracy of nuclear-tipped missiles would prove a worthless exercise since disarming strikes could still not be guaranteed against longer-range, hard-to-target mobile missiles. Focusing on enhanced survivability is, therefore, a prerequisite for this Off Ramps proposal. By following the nuclear basics of survivable second strike capabilities and credible minimum deterrence, India, China, and Pakistan can avoid a wasteful, dangerous competition in counterforce capabilities.

Obstacles to the Acceptance of the Proposal

My common-sense approach may not be an easy proposition for India to offer and for others to accept. As Francis Gavin wrote, during the Cold War, nuclear weapons in “their lethality, their numbers, their deployments – drove the politics, not the other way around. The interaction could produce outcomes – arms races, dangerous crises, and even inadvertent war – separate from the political sources of the rivalry.”¹⁰ It is not difficult to imagine that the three nuclear-armed states of South Asia could fall into the same trap. Avoiding this trap appears particularly difficult for five reasons.

A pro-nuclear cacophony is threatening to drown out the voices of those advocating minimalism and a narrow role for nuclear weapons. Ongoing modernization of nuclear arsenals in all the P-5 countries, replacement of aging arsenals, a new swagger and brinkmanship in nuclear statements and strategies—not just in states like North Korea and

Pakistan, but even in Russia and the United States – heighten insecurities and propel increases in strategic capabilities. Instead of down-playing their nuclear prowess, countries appear to be showcasing them. The general atmospherics of nuclear showmanship generates disquiet -- the complete opposite of the “nuclear quiescence” that Thomas Schelling wrote about just eight years ago.¹¹ To hold on to the philosophy of minimum deterrence in an age of rising nuclear nationalism will not be easy.

The second factor challenging nuclear minimalists is the rapid development of advanced conventional weapons and disruptive cyber capabilities. Nuclear warhead requirements may grow as a result, especially where nations have relatively small nuclear holdings. Blurring of lines between nuclear and conventional weaponry will pose a huge challenge. While it is in the interest of international security that nations maintain a clear distinction between the two realms, the predominant trend appears to favour ambiguity. Nations, therefore, are more likely to settle in favour of hedging bets rather than appear to be settling for less. ‘Staying ahead’ and ‘catching up’ are games likely to appeal to more players than being satisfied with limited requirements of nuclear deterrence.

Thirdly, in the absence of any meaningful arms control or strategic stability talks amongst any of the nuclear armed states today, the inclination to make worst case assumptions about the adversary’s capabilities and intentions will be high. For example, the United States and Russia are not discussing anything beyond New START, which is due to expire in 2021. Multilateral treaties are also under a cloud. Washington and Beijing have had limited success enough with their strategic stability talks and nuclear risk-reduction measures. Likewise, the P-5 talks to restore confidence in the Non-Proliferation Treaty (NPT) have not evolved into anything meaningful. India and China do not have a dialogue on nuclear weapon-related matters. India and Pakistan agreed to their last nuclear risk-reduction measure in 2007, which has received two five-year extensions.

Fourth, technological advances will tempt nations to pursue newer capabilities. As ISR capabilities improve, so will counterforce possibilities. MIRVs and ballistic missile defense systems beckon. Military research and development complexes will promise new advances. Only a firm political leader wedded to a common-sense approach to nuclear deterrence can stand up to these challenges and deal with domestic constituencies that feed on worst case scenarios. Such leaders will not be easy to find.

Lastly, India’s ability to make such a pledge will be challenged by regional realities. The China-Pakistan nuclear and missile cooperation, which has long been common knowledge, is now manifest as close-knit, strategic collusion exemplified by the increasing Chinese presence in contested territories between Pakistan and India. Beijing’s growing assertiveness and insensitivity to Indian concerns could embolden Pakistan further, including in its support for terrorism against India. It will be difficult to wall off the resultant increase in India’s threat perceptions from Chinese and Pakistani nuclear modernization programs. No political leader will like to be called weak and unresponsive to national security requirements.

An added concern would be if China and/or Pakistan were to nominally join India in support of the pledge, but actually disregard it. While the basics of nuclear deterrence would still remain the same, perceptions in India of having been cheated would add weight to the voices arguing in favour of building a higher order of nuclear capabilities. To hold on to minimalism in such a situation would become even more difficult.

Overcoming Hurdles

Despite these hurdles, there still are good reasons for India to make a pledge of restraint and call upon China and Pakistan to follow suit. These reaffirmations are entirely consistent with India's nuclear posture that nuclear weapons are for deterrence rather than war-fighting. Of course India must remain aware of the requirements of survivability, particularly in the event of more effective BMD systems in the region. Even then, however, there would still be no need to engage in a competition on counterforce capabilities. Remaining steadfast to the principles India holds dear and exuding confidence in them could actually buttress deterrence.

A diplomatic appeal to its nuclear-armed neighbours to pledge similar restraint would only elucidate New Delhi's longstanding nuclear principles at a time when a senseless and dangerous competition over nuclear war-fighting capabilities looms. If China and/or Pakistan follow India's lead, the triangular nuclear competition could decelerate. If they do not – whether they take the pledge or not – India would still safeguard its security by assuring its own second strike capabilities. New Delhi must remain confident that its common sense approach to nuclear weapons is right and prudent.

The Off Ramps initiative proposed here is simple, just as the Reagan-Gorbachev pledge once seemed simplistic. But this straightforward initiative could have important consequences for the future of the region. Superpowers made many mistakes during the Cold War in their experimentation with deterrence strategies. The Southern Asian nuclear powers have the luxury of learning from them. One lesson that stands out is the need to go back to basics every time a new role for nuclear weapons or a new capability seemingly presents itself. As long as India maintains survivable nuclear weapons for retaliation while rejecting a nuclear war-fighting strategy, it will remain on the right track.

In order to drive home an appreciation of the basics, New Delhi could promote studies and use media that graphically depict the damaging potential of nuclear weapons. Once the full range of physical, economic, social, political, health, environmental, and psychological effects of nuclear weapons are highlighted, limiting weapon requirements would be better understood. The objective of this proposal is not to make a case for disarmament – although that could be a welcome collateral benefit – but to focus decision-makers on the human, environmental, and societal costs of nuclear war-fighting in order to rationalize their nuclear forces.

Hardware requirements of nuclear deterrence are fairly low and limited given that even a few weapons on densely populated areas would cause damage that no sane leadership could find acceptable. However, the leadership of these three countries, and their respective societies, must be made to understand the details of what this damage would entail. It is one thing to vaguely know that the effects of nuclear use would be horrific, but quite another to be confronted with the extent of actual damage in real places with real statistics. Exposing leaders, and societies, to such facts through reports, documentaries or movies would bring real issues to the fore. It may be recalled that during the Cold War, American literature and media abounded with such works, including Hollywood movies that visualised life “the day after.” In South Asia, no such works have been created. Efforts of this nature undertaken individually or jointly by the three nations would clearly delineate nuclear requirements, foster understanding that large arsenals are unnecessary, and that some kinds of capabilities,

such as missile defence or counterforce accuracies, add to security dilemmas rather than resolving them.

Historical experience related to nuclear weapons reveals that nations often succumb to open-ended targeting requirements. It almost became a compulsion for adversaries to follow each other's lead. This need not be the case. Nations can make choices based on a rational understanding of the fundamentals, nature, and role of nuclear weapons. If national leaders have the wisdom and strength to recognize the basics, they can find ways to take off ramps from the offence-defence spiral that only feeds on each nation's insecurities.

India has always prided itself on its unique, non-Western, and minimalist approach rooted in the basic understanding that nuclear weapons are political instruments designed for deterrence. India's challenge is to hold to these concepts now that credible deterrence is within reach and even while India's nuclear-armed neighbors appear to be choosing a different path. By pledging to reaffirm the basics and eschewing competition in nuclear war-fighting capabilities, India could avoid wasteful expenditure and influence the decisions of other nuclear powers. It's an attempt worth making.

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¹ Kristensen, Hans M. and Robert Norris, "Indian Nuclear Forces, 2015," Nuclear Notebook, *Bulletin of Atomic Scientists*, 1 Sept 2015, <http://thebulletin.org/2015/september/indian-nuclear-forces-20158728>.

² Article 2.6, a., b. and c. of Draft Report of NSAB on Indian Nuclear Doctrine, 17 Aug 1999. Available on <http://www.meaindia.nic.in>

³ Article 2.2 of Ibid.

⁴ Article 3.1 of Ibid.

⁵ See Hans M. Kristensen and Robert Norris, "Pakistani Nuclear Forces, 2016", Nuclear Notebook, *Bulletin of Atomic Scientists*, 1 Nov 2016, <http://thebulletin.org/2016/november/pakistani-nuclear-forces-201610118>.

⁶ Peter Pringle and James Spigelman, *The Nuclear Barons* (London: Sphere Books Ltd, 1982), p. 89.

⁷ For example, see Li Bin and Tong Zhao, *Understanding Chinese Nuclear Thinking*, (Washington DC: Carnegie Endowment for International Peace, 2016). Available at http://carnegieendowment.org/files/ChineseNuclearThinking_Final.pdf

⁸ This in no way compromises the maintenance or build-up of an arsenal that provides sufficient numbers to cause unacceptable damage or work towards technological advancements that improve the arsenal's survivability.

⁹ Nelson, Robert W. "Low Yield Earth-Penetrating Nuclear Weapons," FAS Public Interest Report, Jan-Feb 2001. <http://www.fas.org>.

¹⁰ Gavin, Francis. *Nuclear Statecraft: History and Strategy in America's Atomic Age* (Ithaca and London: Cornell University Press, 2012).

¹¹ Thomas Schelling, "A World Without Nuclear Weapons," *Daedalus*, Vol. 138, No. 4, Fall 2009, pp. 124-7.