A STUDY OF NO FIRST USE POLICY

IN THE INDIAN NUCLEAR DOCTRINE FOR DETERRENCE

A Dissertation submitted to the Punjab University, Chandigarh for the award of the degree of Master of Philosophy in Social Sciences, in partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration

by

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Certificate

I have the pleasure to certify that **Brigadier T Rajesh Bhanu** has pursued his research work and prepared the present dissertation titled '**A Study of No First Use Policy in the Indian Nuclear Doctrine for Deterrence**' under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation, or book. This is being submitted to the Punjab University, Chandigarh, for the purpose of Master of Philosophy in Social Sciences in partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration (APPPA) of the Indian Institute of Public Administration (IIPA), New Delhi.

I recommend that the dissertation of **Brigadier T Rajesh Bhanu** is worthy of the award of M.Phil. degree of Punjab University, Chandigarh.

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New Delhi **Brigadier T Rajesh Bhanu**

March 2022 **Roll No – 4704**

Declaration

I, the undersigned, hereby declare that the dissertation titled '**A Study of No First Use Policy in the Indian Nuclear Doctrine for Deterrence**' is my own work and that all the sources I have accessed or quoted have been indicated or acknowledged by means of completed reference. The dissertation has not been submitted for any other degree of this university or elsewhere.

New Delhi
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Abstract

The successful Indian nuclear weapon journey culminated in the landmark five nuclear tests conducted on May 11 and 13, 1998. Due to the deterioration of the security environment in the neighbourhood, India was compelled to go for weaponization. Though India did not immediately release an official document outlining its nuclear doctrine following the tests, a paper titled the "Evolution of Nuclear Policy" was tabled in Parliament on May 28, 1998, by the then Prime Minister. It stated that India is a responsible nuclear state and should not use these weapons to commit aggression or mount threats against any country.

Since the Indian Nuclear Doctrine had not been made public in its entirety, the information presented in the 2003 Press Release issued by the Ministry of External Affairs (MEA) reflected the contents of the Indian Nuclear Doctrine, with the balance, assumed to be consistent with the 1999 Draft Report by National Security Advisory Board (NSAB). Therefore, in the research study, both have been compared and three interrelated key elements of the Indian Nuclear Doctrine have been deliberated, namely: Credible Minimum Deterrence (CMD), Massive Retaliation (MR), and No First Use (NFU). More importantly, the "No First Use" posture is the cornerstone of the Indian Nuclear Doctrine.

Presently, India is uniquely confronted with divergent nuclear doctrines, viz., Pakistan with a "First Use" strategy and China with a "No First Use" policy. In the recently changing spectrum of threats, Pakistan has introduced battlefield use of tactical nuclear weapons to lower its threshold and achieve its claimed "Full Spectrum Deterrence," whereas China seems to have built ambiguity into its "No First Use" policy. In light of the emerging threat scenario, it is imperative to study and analyse the "No First Use" posture, which is the key element of the Indian doctrine for deterrence.

Moreover, two defence ministers. strategists, military leaders and think tanks in the past had been questioning or calling for the abandonment of the "No First Use" commitment.

Therefore, the research study examines the Indian Nuclear Doctrine for its deterrence value in the context of the changed nuclear behaviour of Pakistan and China. The study also endeavours to analyse the relevance of the NFU policy in the Indian Nuclear Doctrine and assess the implications of its revision. It also examines the implications of revisiting the "No First Use" posture and related elements in the Indian Nuclear Doctrine of 2003, so as to meet newer challenges.

The methods applied in the research are a combination of exploratory and analytical, mostly based on secondary sources. Primary sources include a research survey conducted through a semi-structured questionnaire and open-ended opinions from strategic thinkers, institutions, and think tanks.

The research study finds that the "No First Use posture" had a strategic logic when it was conceived. Adopting the stature of a "responsible nuclear state", India also desired acknowledgement of the international community. But the study finds that both Pakistan and China have been changing the nature of their nuclear doctrines by inducing inherent ambiguities. With India bound by a "No First Use" posture, such changes are limiting Indian response options in a nuclear scenario. Moreover, it finds that a single nuclear strategy may not deter the two divergent nuclear doctrines of Pakistan and China. It may also not meet the challenges of a "Two Front War" escalating to the nuclear dimension. Therefore, the study finds that the "No First Use" posture is a stumbling block to India's nuclear deterrence.

Considering the dyad of disparate nuclear threats, the study recommends decoupling of the Indian Nuclear Doctrine against each adversary. It also recommends

adopting an "Ambiguous Use" posture against Pakistan and a "Conditional No First Use" policy against China. Against Pakistan, the posture of "Ambiguous Use" will empower India with “First Use” options such as Pre-emptive Strike, Launch on Warning (LOW) and Launch on Launch (LOL). I will also encompass the “No First Use” (NFU) posture as well. Against China, it is recommended that a "Conditional No First Use" posture be adopted since both India and China have a declared “No First Use” and possess a reasonable second-strike capability. The conditions in the "No First Use" posture could be "if war threatens India’s survival or vital interests" or "if Indian nuclear assets are targeted." Such a “No First Use” policy will reassure the global fraternity that India is a responsible nuclear state and is not aggressive.

In addition, the research finds that the "Massive Retaliation" strategy is not rational and nuclear devastation is unacceptable in the new world order. Moreover, international pressure may preclude India’s option of initiating "massive retaliation." Therefore, a "Flexible Response" is more permissive and acceptable. Moreover, flexible response affords both counter-value and counter-force options, as may be necessary for nuclear retaliation. If adopted, the “Flexible Response” strategy would also deter the use of biological or chemical weapons against India and would accord credibility to the stated caution in the Indian nuclear doctrine.

The research study recommends transforming the Indian Nuclear Doctrine by decoupling it to deter both divergent nuclear strategies and their collusive threat. Against the irrationality of Pakistan, it recommends adopting an "Ambiguous Use" posture and a "Flexible Response" strategy. To deter China’s drifting "No First Use" pledge, it recommends incorporating a "Conditional No First Use", thereby mitigating conventional threats to India’s vital interests, survival, and nuclear assets.

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List of Abbreviations

BF	Battlefield
CCS	Cabinet Committee on Security
CF	Counter Force
CMD	Credible Minimum Deterrence
CTBT	Comprehensive Test Ban Treaty
CV	Counter Value
DAE	Department of Atomic Energy
DRDO	Defence Research and Development Organization
FMCT	Fissile Material Cut-off Treaty
IND	Indian Nuclear Doctrine
MEA	Ministry of External Affairs
MR	Massive Retaliation
NSAB	National Security Advisory Board
NFU	No First Use
NWS	Nuclear Weapon State
NNWS	Non-Nuclear-Weapon States
NSC	National Security Council

Glossary

Deterrence	The prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of action outweighs the perceived benefits.
Credible Minimum	"Credible" is defined as not only the quality and quantity of the arsenal but also the resolve and capacity to retaliate, as well as the survivability of assets. "Minimum" refers to the quantity of surviving arsenal necessary to carry out massive retaliation inflicting unacceptable damage.
No First Use	A "No First Use" (NFU) policy is a commitment to not use nuclear weapons first. Such a commitment is a formal declaration by a nuclear weapon state that it will never be the first to use these weapons in a conflict, reserving them exclusively for retaliation against a nuclear strike on its territory or military forces.
Massive Retaliation	Massive retaliation, also known as a massive response or massive deterrence, is a military doctrine and nuclear strategy in which a state commits itself to retaliate in much greater force in the event of an attack.

CHAPTER I

INTRODUCTION

"India needs to be a nuclear-weapon state, as other nations are well-equipped and only strength respects strength. Unless we are strong, we cannot defend ourselves,"[1]

- Former President of India, Dr A P J Abdul Kalam

India's successful nuclear journey began since independence. India first invested in nuclear technology to derive atomic energy for peaceful purposes. Visionaries at the time had the foresight to keep the option of weaponization alive for India's national security. Finally, on May 18, 1974, India conducted its first nuclear test, followed by the landmark five tests on May 11, and May 13, 1998, toward weaponization.

Though India did not immediately release an official document outlining its nuclear doctrine following the 1998 tests, the first document was released on August 17, 1999, as a "Draft Report of the National Security Advisory Board (NSAB) on Indian Nuclear Doctrine (IND)" (Ministry of External Affairs,1999). The report was de facto deemed the Indian Nuclear Doctrine until a summary of the operationalised Nuclear Doctrine by the Cabinet Committee on Security (CCS) was released on January 4, 2003,

[1] The Economic Times (2009, August 28). India needs to be a nuclear weapon state: Kalam. Retrieved December 2021, from https://economictimes.indiatimes.com/news/politics-and-nation/india-needs-to-be-a-nuclear-weapon-state-kalam/articleshow/4946436.cms?from=mdr

through an official press release issued by the Ministry of External Affairs (Ministry of External Affairs, 2003).

From a 2003 press release, India's nuclear doctrine can be summarised as (i) building and maintaining a credible minimum deterrent; (ii) a posture of "No First Use"; nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or Indian forces anywhere; (iii) nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage (iv) nuclear retaliatory attacks can only be authorised by the civilian political leadership through the Nuclear Command Authority; (v) non-use of nuclear weapons against the Non-Nuclear-Weapon States (NNWS); (vi) however, in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons; India will retain the option of retaliating with nuclear weapons (Ministry of External Affairs, 2003).

When comparing the two versions, it is evident that the 1999 Draft Report shared some similarities, but the transformation in many areas is more noticeable in the 2003 press release. Because the Indian Nuclear Doctrine has not been made public in its entirety, the information presented in the 2003 Press Release is considered to reflect the contents of the Indian Nuclear Doctrine, and the balance is assumed to be consistent with the 1999 Draft Report. Thus, the assessment of the Indian Nuclear Doctrine in the research is entirely based on the 2003 Press Release, with assumed conjunctures from the 1999 Draft Report. For the purposes of this study, the three interrelated key elements of the Indian Nuclear Doctrine, as given below, are discussed elaborately:

- Credible Minimum Deterrence (CMD).
- Massive Retaliation (MR)
- No First Use (NFU)

The “No First Use” policy is the foundation of the Indian nuclear doctrine. The “No First Use” stand had been explicitly stated in both the Draft Report of 1999 and the Summary of 2003. The country's commitment not to use nuclear weapons first as proof of its "responsible state" status has been repeatedly challenged for failing to provide deterrence against its two nuclear adversaries.

At present, India faces a peculiar security environment with a complex threat spectrum from both Pakistan and China. India is confronted with the difficulty of countering divergent nuclear doctrines on its Western and Northern borders; Pakistan has a "First Use" strategy, while China has a "No First Use" policy. However, Pakistan has introduced battlefield use of tactical nuclear weapons to achieve its claimed "Full Spectrum Deterrence," whereas China seems to have built ambiguity into its "No First Use" policy. In light of the developing threat scenario, it is imperative to study and analyse the "No First Use” posture, which is the key element of the Indian doctrine for deterrence. Moreover, two defence ministers, strategists, military leaders and think tanks in the past had been questioning or calling for the abandonment of the "No First Use” commitment. Therefore, the research is intended to examine the following:

- To examine Indian Nuclear Doctrine to assess its deterrence value in the context of nuclear adversaries in the neighbourhood.
- To analyse the relevance of the "No First Use” policy in the Indian Nuclear Doctrine.
- To assess the implications of the revision of the "No First Use” policy on the deterrence value of the Indian Nuclear Doctrine against nuclear neighbours.

The research explores the Indian nuclear journey to understand the strategic logic in adopting the various elements of India’s nuclear policy. The research study

does a deep analysis of the evolution of India's nuclear policy within the canvas of nuclear deterrence theory. It also examines the nuclear doctrines of other Nuclear Weapon States (NWS). The research analyses the emerging threat spectrum in the Indian context in light of the changing nuclear characters of Pakistan and China. The research paper identifies and analyses the key elements of the Indian Nuclear Doctrine and various options for their review to meet the shifting nuclear threat spectrum. The research paper also plays the nuclear scenarios and evaluates the plausible Indian responses to arrive at recommended amendments to the Indian nuclear doctrine.

Chapter II and III elaborate on the research methodology and survey of the literature. The subsequent chapters have been logically sequenced to arrive at justified findings concerning the review of the "No First Use" policy in the Indian Nuclear Doctrine.

Chapter IV elaborately discusses the evolution of India's nuclear policy since independence. It also traces the Indian nuclear weapon programme till the last nuclear test in 1998. The chapter also glances through the prevalent global nuclear scenario and explains India's nuclear compulsions.

Chapter V explains the subtleties of nuclear deterrence theory and the accompanying deterrence typology. It also explains the nuclear behaviour of regional nuclear-weapon states. The chapter also draws a correlation between the theories and the existing nuclear doctrines of all nuclear-weapon states.

After examining the evolution of Indian nuclear policy and other nuclear-weapon nations' doctrines, Chapter VI focuses on the Indian Nuclear Doctrine. It compares both the Draft Report on the Indian Nuclear Doctrine of 1999 and the Press Release on the operationalisation of the Indian Nuclear Doctrine of 2003. It further

examines the three key elements of the Indian Nuclear Doctrine, viz., Credible Minimum Deterrence (CMD), Massive Retaliation (MR), and No First Use (NFU).

Chapter VII explores and analyses the nuclear doctrines of China and Pakistan, with special reference to their policy on the use of nuclear weapons. The chapter looks at how their nuclear doctrines are changing, as well as the ambiguities inherent in them with their ramifications for India.

Chapter VIII examines the efficacy of no first use in the nuclear deterrence conundrum. It analyses the advantages and disadvantages of “No First Use” in the Indian nuclear doctrine. It discusses India's options to abandon the No First Use Policy and the possibility of shifting from "No First Use Policy" to "Posture of Ambiguity." It also correlates the "No First Use" policy to the strategy of "Massive Retaliation to Inflict Unacceptable Damage" and suggests modifications.

Chapter IX analyses the online research survey obtained through an elaborate questionnaire from strategists, research scholars and thinks tanks and outcomes. It also the research survey and its outcome.

Chapter X consolidates the analysis of the research and the recommendations. It examines the regional security scenario in 2003 that led to the Indian Nuclear Doctrine. It examines the emerging security paradigm and changes in the security threat spectrum in the Indian context. It deliberates on the Indian Nuclear Doctrine in a changed security scenario. It also plays out the nuclear scenarios between India and Pakistan as well as India and China. It also discusses the "Two Front War" escalating to the nuclear dimension. Based on the analysis and findings of the research survey, the chapter recommends changes and amendments to the Indian Nuclear Doctrine to meet the future nuclear security challenges in the subcontinent.

The research is an effort to study the stated "No First Use" policy in the Indian Nuclear Doctrine for its relevance to provide deterrence in the context of emerging threats from nuclear adversaries in the neighbourhood and recommend changes to the doctrine to deter the newer security challenges.

CHAPTER II

RESEARCH METHODOLOGY

"Creativity is seeing the same thing but thinking differently."[2]

- Former President of India, Dr A P J Abdul Kalam

Statement of the Problem

A nuclear weapon strategy hinges around the deterrence theory, by the threat of its use. "No First Use" is a policy pronouncement whereby the nuclear powers pledge, not to employ nuclear weapons first with or without conditionalities. The nuclear powers have "No First Use" policies stated or assumed or ambiguous in their Nuclear Doctrines.

India's Nuclear Doctrine of 2003 had stated its posture of 'No First Use' of nuclear weapons, which will only be used in retaliation against a nuclear attack on Indian territory or Indian forces anywhere (Ministry of External Affairs, 2003). Whereas, India's adversaries in the neighbourhood have not adopted the "No First Use" policy in its entirety. Pakistan had declared its "First Use" policy; whereas China has built ambiguity into the "No First Use" policy in its Nuclear Doctrines.

The "No First Use" policy in Indian Nuclear Doctrine has often been upheld as proof of India's status as a "responsible nuclear state" but is not driven by the threat from two nuclear adversaries. "No First Use" being the cornerstone of the Indian

[2] https://economictimes.indiatimes.com/news/politics-and-nation/apj-abdul-kalams-birth-anniversary-most-inspiring-quotes-by-missile-man/end-is-not-the-end-if-fact-end-means-effort-never-dies-if-you-get-no-as-an-answer-remember-no-means-next-opportunity-so-lets-be-positive-/slideshow/59792393.cms

Nuclear Doctrine has its relevance to impact its deterrence value in the context of India's nuclear adversaries.

Research Objectives

1. To examine Indian Nuclear Doctrine to assess its deterrence value in the context of nuclear adversaries in the neighbourhood.

2. To analyse the relevance of the "No First Use" policy in the Indian Nuclear Doctrine.

3. To assess the implications of the revision of the "No First Use" policy on the deterrence value of the Indian Nuclear Doctrine against nuclear neighbours.

Research Strategy and Design

The approach for the study was qualitative and the research design was analytical. The study also utilised relevant data as available in the open domain to support the research.

Rationale or Justification

There is a history of strategists, military leaders, and think tanks questioning, or calling for the abandonment of the "No First Use" commitment. The two defence ministers in the past have questioned the "No First Use" posture. Shri Manohar Parrikar, former Defence Minister in 2016 had said "Why a lot of people say that India has No First Use policy. Why should I bind myself to a… I should say I am a responsible nuclear power and I will not use it irresponsibly".[3] Shri Rajnath Singh, the present Defence Minister has also said in 2019 "Pokhran is the area which witnessed Atalji's firm resolve to make India a nuclear power and yet remain firmly committed to the

[3] Singh, S. (2016, November 10). Manohar Parrikar questions India's no-first-use nuclear policy, adds 'my thinking.' The Indian Express. https://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/

doctrine of "No First Use". India has strictly adhered to this doctrine. What happens in future depends on the circumstances"[4]

Therefore, the research was an effort to study the relevance of the stated "No First Use" policy in the Indian Nuclear Doctrine for its relevance to afford deterrence value in the context of threats from the two nuclear adversaries in the neighbourhood.

Research Questions

1. Are Nuclear Deterrence Theory and Nuclear Doctrines of major Nuclear Weapon States (NWS) relevant in a trilateral nuclear setting concerning India?

2. What are the stated Nuclear Doctrines of China and Pakistan and their implications for India?

3. Does the quantum of nuclear assets of the three countries influence respective Nuclear Doctrines?

4. Is Indian Nuclear Doctrine with ingrained "No First Use" policy providing deterrence against its two nuclear adversaries in the neighbourhood?

5. What could be the implications of revising the current "No First Use" policy in Indian nuclear doctrine in a trilateral nuclear setting?

6. What could be the nature and form of the "No First Use" policy or otherwise and other associated attributes in the Indian Nuclear Doctrine, to deter its two neighbours?

[4] Correspondent, S. (2019, August 16). 'No First Use' nuclear policy depends on circumstances: Rajnath Singh. The Hindu. https://www.thehindu.com/news/national/no-first-use-nuclear-policy-depends-on-circumstances-rajnath-singh/article29109149.ece

Limitations

The Indian Nuclear Doctrine has not been released in the full transcript for the public except for its summary of 2003, which was released through a press release by the Ministry of External Affairs, Government of India. Also, since the nature of the study has national security implications, the disclosures by primary sources were limited that too with anonymity. Therefore, the research was mostly based on secondary sources.

Research Methods and Data Sources

The methods applied in this research were a combination of exploratory and analytical. The research was mostly based on secondary sources and primary sources were limited.

Primary Source

Primary sources included interactions through semi-structured questionnaires and open-ended opinions from strategic thinkers, institutions and think-tanks.

Participants. The sample participants of the research survey included all age groups including academicians, strategic analysts, military leaders, research scholars and students of strategic affairs. The participants belonged to various departments, universities and think tanks.

Procedure. The potential participants were invited to participate in the survey online using Google forms. The survey consisted of multiple-choice questions regarding the deterrence value of the Indian Nuclear Doctrine against Pakistan and China. The questionnaire also sought the opinion of the participants on all key elements of the Doctrine.

Secondary Sources

The secondary sources were the unclassified documents and official statements on India's Nuclear Doctrine by the Government of India. In addition, books, articles and documents published by the experts on the subject have been a major source of the research. The kinds of literature that explore concepts and theories have been utilised. Over and above, relevant data from open sources have been used to supplement the topical analysis to arrive at conclusive deductions.

CHAPTER III

LITERATURE REVIEW

"Change is crucial. It brings new thought; new thought leads to innovative actions."[5]

- ***Former President of India, Dr A P J Abdul Kalam***

Introduction

A detailed literature review was carried out to identify, evaluate and interpret the work produced by researchers and scholars on the Indian Nuclear Doctrine. In the process of the review, the kinds of literature by prominent writers were selected on the research problem and further identify the research gaps. The primary purpose of this review is to ascertain if the "No First Use" policy in Indian Nuclear Doctrine is providing desired deterrence value against two nuclear adversaries. It is also to ascertain if the "No First Use" has lost its relevance due to changing nuclear threat perception to India.

Reviewed Literature

J. Singh (1999) explicitly described India's progress to become a Nuclear Weapon State (NWS). The author clarified the compulsions of India in 1998 to test a nuclear weapon. He opined that Comprehensive Test Ban Treaty (CTBT) deadline compelled India to go nuclear. The article revealed that the "No First Use" in the Indian

[5] https://www.ndtv.com/india-news/national-technology-day-2021-on-national-technology-day-top-5-quotes-of-apj-abdul-kalam-to-share-2439233

Nuclear Doctrine was to reflect the world that India was a responsible nuclear state but was not driven by the threat from nuclear adversaries. The article did not analyse Indian Nuclear Doctrine from the point of view of threat as well as deterrence.

Karnad (2008) gave out a detailed account of the evolution of the Indian Nuclear Doctrine. He stated that India's growing nuclear arsenal contributed to instability in South Asia. But the book did not evaluate the “No First Use” policy based on the deterrence continuum. The book has not evaluated the Indian Nuclear Doctrine against the developing threat spectrum in the Indian context.

Ahmed (2009) examined the nuclear threat based on various scenarios. It recommended a review of “Massive Retaliation” to “Punitive Retaliation’ to provide credibility. The author did not consider the revision of the “No First Use” policy in the Indian Nuclear Doctrine, since he thought that it was providing required deterrence against the nuclear adversaries.

Rani (2013) focused the research on Indo-US security implications in the context of the nuclear deal. It elaborated on Non-Proliferation Treaty (NPT) & Comprehensive Test Ban Treaty (CTBT). The researcher explicitly stated India’s viewpoint on both treaties. The research work tracked the evolution of India’s Civil Nuclear Policy. However, the research did not discuss nuclear weapon strategy and did not analyze the nuances of the Indian Nuclear Doctrine.

Chandra (2014) suggested that ‘Credible Minimum Deterrence’ in conjunction with the “No First Use” policy was the foundation of the Indian Nuclear Doctrine. The article was against revisiting Indian Nuclear Doctrine. It stated that the review of the “No First Use” policy is not justified since the gains enjoyed by India in the world by its restraint is manifold.

Sethi (2014) has critically analysed the “No First Use” policy in the Indian Nuclear Doctrine. It stated that India wisely steered away from nuclear brinkmanship by adopting the “No First Use” policy. However, the article did not substantiate the “No First Use” policy by its deterrence value in a new spectrum of threat with two divergent nuclear adversaries.

Rajagopalan (2016) justified that the Indian Nuclear Doctrine is required to be periodically re-examined. The article also indicated to the government that there is a need to release more information about Indian Nuclear Doctrine. However, the article did not elaborate on the impact of the revision of the “No First Use” policy.

S. Singh (2016) in his article stated that the Former Defence Minister articulated that if the “No First Use” policy is binding, then it is a loss of surprise and suggested that unpredictability has to be built into the Indian Nuclear Doctrine. However, the minister did not justify the review of the “No First Use” policy by any credible logic or justified reasoning.

Kuniyil (2017) intricately explained regional and global security dynamics, with emphasis on growing nuclear threats in South Asia. It also stated that nuclear deterrence poses a serious challenge to regional security. However, the research did not adequately analyze the Indian Nuclear Doctrine and the nuclear scenario with Pakistan and China.

Kanwal (2018) analysed the nuances of the Indian Nuclear Doctrine and raised critical issues concerning India’s nuclear future. It assessed the ‘theoretical doctrine’ to its operational reality. But, the future of nuclear deterrence in the world order was not adequately covered.

Rajagopalan (2019) stated that the "No First Use" policy was a result of the lessons that strategic thinkers learned in the long decades. It opined that "No First Use" was the outcome of this strategic logic. But it did not compare the "No First Use" policy was based on deterrence value.

Ingram (2019) gave a global view on Nuclear Weapon States (NWS) and their doctrines. The article talked about disarmament but has not discussed the Indian Nuclear Doctrine.

Correspondent (2019) in the news article, stated that Shri Rajnath Singh, the Defence Minister made a mention about the "No First Use" policy. Though the Defence Minister affirmed through his statement that India will remain firmly committed to the doctrine of "No First Use" policy, but its future will depend on circumstances. However, the form of the "No First Use" policy and justification were not suggested for the future prescribed revision.

Sethi (2020) examined the Indian Nuclear Doctrine in light of the blurred line between nuclear and highly technically advanced conventional weapons. It evaluated the relevance of nuclear deterrence and its impact on future decision making. The article suggested no change in the "No First Use" policy but suggested building on the survival of assets. However, the relevance of the "No First Use" policy in nuclear warfare with two disparate nuclear doctrines of Pakistan and China. Moreover, the nuclear dynamics of "Two Front War" has not been evaluated.

Summary and Suggestions for Study

From the survey of the literature, it is evident that the "No First Use" policy was the foundation of the Indian Nuclear Doctrine. The response options for India hinged on the "No First Use" policy. However, with the changing threat scenario, there

is a need to assess the deterrence value of the "No First Use" policy in the Indian Nuclear Doctrine, so to meet the divergent nuclear threat scenario emerging from Pakistan and China.

Works Cited

Ahmed, A. (2009). Reviewing India's Nuclear Doctrine. *Strategic Analysis, Institute for Defence Studies and Analyses*. Published.

Chandra, S. (2014). Revisiting India's Nuclear Doctrine: Is It Necessary? *Strategic Analysis, Institute for Defence Studies and Analyses*. Published. https://www.idsa.in/issuebrief/RevisitingIndiasNuclearDoctrine_schandra_300414

Correspondent, S. (2019, August 16). 'No First Use' nuclear policy depends on circumstances: Rajnath Singh. *The Hindu*. https://www.thehindu.com/news/national/no-first-use-nuclear-policy-depends-on-circumstances-rajnath-singh/article29109149.ece

Ingram, P. (2019). Discussion Paper: Nuclear Doctrine. *Nuclear Threat Initiative*. Published. https://media.nti.org/documents/Discussion_Paper-Nuclear_Doctrine.pdf

Kanwal, G. (2018). *Sharpening the Arsenal: India's Evolving Nuclear Deterrence Policy* (1st ed.). HarperCollins.

Karnad, B. (2008). *India's Nuclear Policy (Praeger Security International)*. Praeger.

Kuniyil, R. (2017, July). *Nuclear Deterrence in Trilateral Setting: Strategies of India, Pakistan and China*. Mahatma Gandhi University Created and maintained by INFLIBNET Centre. http://hdl.handle.net/10603/229695

Rajagopalan, R. (2016). India's Nuclear Doctrine Debate. *Carnegie Endowment for International Peace*. Published.

https://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950

Rajagopalan, R. (2019). The strategic logic of the No First Use nuclear doctrine. *Observers Research Foundation*. Published. https://www.orfonline.org/expert-speak/strategic-logic-no-first-use-nuclear-doctrine-54911/

Rani, A. (2013, January). *Nuclear policy of India a study of security perspective*. https://shodhganga.inflibnet.ac.in/jspui/. http://hdl.handle.net/10603/6561

Sethi, M. (2014). India and No First Use: Preventing Deterrence Breakdown. *Institute of Peace and Conflict Studies*. Published. http://www.ipcs.org/comm_select.php?articleNo=4393

Sethi, M. (2020). Global Nuclear Developments 2017–2020: Implications for India's Nuclear Policy. *National Security, Vivekananda International Foundation*. Published. https://www.vifindia.org/sites/default/files/national-security-vol-3-issue-2-article-MSethi.pdf

Singh, J. (1999). India's nuclear policy: The year after. *Strategic Analysis*, *23*(4), 509–530. https://doi.org/10.1080/09700169908455065

Singh, S. (2016, November 10). Manohar Parrikar questions India's no-first-use nuclear policy, adds 'my thinking.' *The Indian Express*. https://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/

CHAPTER IV

EVOLUTION OF INDIA'S NUCLEAR POLICY

"The future belongs to those who produce atomic energy. That is going to be the chief national power of the future. Of course, defence is intimately concerned with this. Even the political consequences are worthwhile."[6]

- ***Former Prime Minister of India, Shri Pandit Jawaharlal Nehru***

India's Nuclear Journey

India achieved its independence against the dramatic backdrop of the end of World War II, which ushered in the nuclear age and was followed by the Cold War paradigm, with its gloomy shadows looming on the horizon. However, India chose the more difficult route of non-alignment in order to strengthen the country through its own resources and the commitment of its people. The promotion of knowledge and the instillation of the scientific spirit were among Independent India's early endeavours. This project paved the way for India's nuclear technology growth (Parliament of India, Lok Sabha, 1998).

Dr Homi Bhabha, an Indian physicist, was the architect and driving force behind India's nuclear energy programme. In March 1944, Dr H. Bhabha wrote to the Sir Dorab Tata Trust requesting financing for the establishment of an Indian institute dedicated to fundamental nuclear research. The Tata Board of Trustees convened to consider Dr H. Bhabha's proposal in its entirety. The trustees agreed to fund the Tata

[6] Karnad, B. (2002). Nuclear Weapons and Indian Security: The Realist Foundations of Strategy. Macmillan India Limited.

Institute of Fundamental Research (TIFR), and on June 01, 1945, Dr H. Bhabha becomes the institute's first director. TIFR was relocated to Bombay in December 1945. (Nuclear Threat Initiative, 2010).

Dr Bhabha was the founding father of India's atomic energy programme, which was fully backed by Shri Pandit Jawaharlal Nehru. Shri Pandit Nehru held centres of scientific and technical achievement in such high regard that he called them "Temples of Modern India." This combination of two greats resulted in India emerging as a technologically advanced country on the international map of atomic energy. In April 1948; India's government took direct control of the nuclear energy programme. Prime Minister Shri Nehru presented the Atomic Energy Act to India's Constituent Assembly in order to establish an Atomic Energy Commission (AEC) and the legal foundation for its functioning. The statute, which is modelled after the United Kingdom's Atomic Energy Act, mandates "complete secrecy" in the study and development of atomic energy (Nuclear Threat Initiative, 2010).

India's Nuclear Weapons Programme

India's nuclear programme was primarily conceived by Dr Bhabha, who persuaded political leaders to invest resources in the nuclear sector. India's first Prime Minister, Shri Jawaharlal Nehru started an ambitious nuclear programme to bolster the country's prestige and energy independence, with a major focus on delivering affordable electricity. However, developing the whole nuclear fuel cycle provided India with the technological wherewithal to pursue nuclear weapons.

The internal argument over whether India should create a nuclear explosive device persisted in the years that followed. On the one hand, the scientific community desired to demonstrate that it was technically capable of detonating a nuclear bomb,

while strategists within the security community argued that security developments in China and elsewhere necessitated a nuclear deterrent.

Numerous leaders opposed nuclear weapons on economic and moral grounds, claiming that nuclear weapons would not make India safer and that the only way to prevent nuclear proliferation was through comprehensive global disarmament. As a consequence, there was a consensus that India should not join the Treaty on the Non-Proliferation (NPT) of nuclear weapons when it became available for signature in 1968 unless nuclear weapon nations agreed on a concrete strategy for nuclear disarmament.

In November 1964, Prime Minister Lal Bahadur Shastri sanctioned the commencement of theoretical work on the Subterranean Nuclear Explosion for Peaceful Purposes (SNEPP) project. Nuclear scientists continued to create the technical capability for a nuclear explosion in the late 1960s, even if the political decision to conduct the test had not yet been taken. Ultimately, on May 18, 1974, on the orders of then Prime Minister Indira Gandhi, India tested a fission device (Nuclear Threat Initiative, 2021).

First Nuclear Test, May 18, 1974

On May 18, 1974, India conducted a nuclear test at Pokhran in the Rajasthan desert. The Indian Government announced the blast and declared a "Peaceful Nuclear Explosion" (PNE). The AEC stated that India has "no intention of producing nuclear weapons". On May 18, 1974, Indian Prime Minister Indira Gandhi told a press conference that "there's nothing to get excited about. This is our normal research and study. But we are firmly committed to only peaceful uses of atomic energy. " (Nuclear Threat Initiative, 2021).

The Period of Long Silence

The worldwide response to the first nuclear test in 1974 was largely negative. As a result of the test, India lost international backing for its nuclear programme, which was already under intense international scrutiny. As a result, India's civilian nuclear programme suffered. A lack of indigenous resources and reliance on foreign technology and technical help have hampered the civilian nuclear power programme's growth for years. India was particularly heavily struck by the suspension of heavy water supplies and technical support in the construction of its own heavy water plants, as all of its reactor designs were dependent on it.

Smt Indira Gandhi deserved credit for resuming the weapon's development programme following a pause. Though Shri Rajiv Gandhi gave the order to manufacture the weapon, it was Shri Narasimha Rao who operationalised it (Subrahmanyam, 2004). Throughout history, India's nuclear strategy had been stable. Shri Narasimha Rao authorised a nuclear test in 1995, but it was called off when the CIA spotted suspicious activity at Pokhran. A report in the New York Times on December 15, 1995, compelled the US Ambassador to India, to return to New Delhi with images of the hole being built at the test site and warnings of looming penalties if India persisted (Tiwari, 2018). Additionally, Shri Narasimha Rao disclosed that there was no consensus on the test. Not just amongst economists and bureaucrats, but also among scientists, there were disagreements. He was convinced that if he returned to the government, he would undertake the test. During Shri Rao's tenure as Prime Minister, when India was under intense US pressure to scale back its nuclear programme, he appears to have kept Vajpayee informed of nuclear programme developments (Subrahmanyam, 2004).

Operation Shakti: 11 and 13 May 1998

When Prime Minister Shri Atal Bihari Vajpayee took office in 1998, his administration authorised two rounds of nuclear testing on May 11 and 13, 1998, following which India formally proclaimed itself a nuclear-weapon state.

At 3:45 p.m. on 11 May 1998, Prime Minister Shri Atal Bihari Vajpayee stated that India had conducted three nuclear tests at the Pokhran nuclear test site in the state of Rajasthan. The Prime Minister stated that a fission bomb, a low-yield device, and a thermonuclear device were all tested, and the "yields are in line with expected values." According to a subsequent Indian government news release, the tests established India's capabilities for a weaponised nuclear programme. Nuclear Threat Initiative (2021) stated that the tests "are expected to carry Indian scientists towards a sound computer simulation capability which may be supported by sub-critical experiments if considered necessary."

Indian Embassy, USA (1998) press release read as, "The three tests conducted on May 11th, 1998 were with a fission device with a yield of about 12 KT, a thermonuclear device with a yield of about 43 KT, and a sub-kilo tonne device. On May 13, 1998, two more sub-kilo-tonne nuclear tests were carried out. The yields of the sub-kilo tonne devices were in the range of 0.2 to 0.6 KT. The tests conducted on May 11 and 13, 1998 have provided critical data for the validation of India's capability in the design of nuclear weapons of different yields for different applications and delivery systems. These tests have significantly enhanced India's capability in computer simulation of new designs and taken us to the stage of sub-critical experiments in the future if considered necessary."

To clarify the apprehensions on the outcome of the tests, Dr Anil Kakodkar (Director of Bhabha Atomic Research Centre) and Dr R Chidambaram (Director of the Department of Atomic Energy) issued a press statement on the Pokhran-II tests. It confirmed that “India conducted five nuclear tests of advanced weapon designs on May 11 and 13, 1998 at the Pokhran range in the Rajasthan Desert. The first three detonations took place simultaneously at 15:45 IST on May 11, 1998. These included a 45 KT thermonuclear device, a 15 KT fission device, and a 0.2 KT sub-kiloton device. The two nuclear devices detonated simultaneously on May 13 were also in the sub-kiloton range – 0.5 and 0.3 KT. The May 1998 tests were fully successful in terms of achieving their scientific objectives and the capability to build fission and thermonuclear weapons with yields of up to 200 kt” (Government of India, Department of Atomic Energy, 2009). These tests were the conclusion of a decades-long collaborative effort to develop nuclear weapons know-how and expertise.

Evolution of India’s Nuclear Policy

On May 27, 1998, Shri Atal Bihari Vajpayee, India's Prime Minister, tabled a document titled "Evolution of India's Nuclear Policy" in the Twelfth Lok Sabha's Session 2, outlining India's nuclear policy's evolution. It emphasised the security situation and India's impetus to pursue nuclear weapons. The paper in original is attached as Appendix 1 (Parliament of India, Lok Sabha, 1998).

Independence and Non-alignment. At independence, India's foreign and security policies were primarily concerned with enabling the country to begin the process of economic and social transformation. Thus, the immediate goals were a peaceful environment, geopolitical space, and autonomy devoid of Cold War wars or alliances. This policy was christened "Non-alignment." It was the ability to evaluate issues on their merits and their impact on India's interests, or, as India's first Prime

Minister, Nehru, repeatedly put it, "enlightened self-interest." Disarmament was and continues to be, a central tenet of India's foreign policy (Parliament of India, Lok Sabha, 1998).

Nuclear Technology. Nuclear technological advancements have altered the essence of global security. According to India's leaders, nuclear weapons were not weapons of war; they were weapons of mass destruction. Meanwhile, Indian policymakers recognised early on that nuclear technology holds enormous promise for economic growth, particularly for poor countries attempting to bridge the technological divide built by centuries of colonial subjugation. This thinking was mirrored in the Atomic Energy Act of 1948, which was enacted within a year of India's independence (Parliament of India Lok Sabha, 1998).

Halt Nuclear Testing. Nuclear weapons testing began above ground in the 1950s, and the distinctive mushroom cloud became the visual icon of the nuclear age. India then took the lead in asking for the immediate cessation of all nuclear weapon testing as a necessary first step toward stopping the nuclear arms race. Shri Jawaharlal Nehru remarked in the Lok Sabha on April 2, 1954, shortly after a big hydrogen bomb test, that "nuclear, chemical, and biological energy and power should not be used to forge weapons of mass destruction." India's Prime Minister, Jawaharlal Nehru, was the first statesman to ask for a nuclear testing "standstill" agreement. He urged discussions on the ban and elimination of nuclear weapons, as well as a standstill agreement to prevent nuclear testing in the interim (Parliament of India Lok Sabha, 1998).

The Nuclear Non-Proliferation Treaty (NPT). In 1965, India proposed a worldwide non-proliferation pact with a small number of non-aligned nations, under which nuclear-weapon states would agree to give up their arsenals in exchange for other countries' refraining from developing or acquiring such weapons. When the Nuclear

Non-Proliferation Treaty (NPT) was signed in 1968, this balance of rights and duties were missing. That is when and why India made it very clear that it would be unable to ratify the NPT (Parliament of India Lok Sabha, 1998). On April 5, 1968, the Lok Sabha debated the NPT. The late Smt Indira Gandhi, the then Prime Minister, assured the House that "we shall be guided entirely by our self-enlightenment and the considerations of national security." The Indian choice not to sign the NPT was in accordance with the core purpose of retaining freedom of thought and action (Parliament of India Lok Sabha, 1998).

Comprehensive Test Ban Treaty (CTBT). India demonstrated its nuclear capability in 1974. Subsequent governments have made all essential efforts to secure India's nuclear option in accordance with that resolution and national will. This was also the key basis for the country's 1996 decision to withdraw from the Comprehensive Test Ban Treaty (CTBT); a move that was unanimously approved by the House. India believed that adhering to the CTBT would severely constrain India's nuclear capability to an unacceptably low level. India's reservations were aggravated by the CTBT's failure to advance the nuclear disarmament process (Parliament of India Lok Sabha, 1998).

A Deteriorating Security Environment in 1980-1990. Meanwhile, during the 1980s and 1990s, India's security situation gradually deteriorated as a result of nuclear and missile proliferation. Nuclear weapons had risen in number and more sophisticated delivery systems had been introduced in India's neighbourhood. Additionally, a pattern of clandestine acquisition of nuclear materials, missiles, and associated technology had developed throughout the region. India became a victim of externally aided and abetted terrorism, militancy, and proxy war during this time period (Parliament of India, Lok Sabha, 1998).

Global Scenario. At the global level, there was no evidence that nuclear weapon nations were prepared to make meaningful and irreversible moves toward a nuclear-weapons-free world. Rather than that, the NPT was extended indefinitely and unconditionally, ensuring the continued presence of nuclear weapons in the hands of the five countries that were also permanent members of the United Nations Security Council. Several of these countries had nuclear weapons policies that allowed for the first use of nuclear weapons; they were also engaged in modernisation programmes for their nuclear arsenals (Parliament of India Lok Sabha, 1998).

The Nuclear Compulsions. In such circumstances, India was left with few options. It needed to take the required steps to guarantee that the country's nuclear option, which had been created and preserved for decades, was not eroded by self-imposed constraint. Indeed, such deterioration would have had a permanent negative effect on India's security. Thus, the government was confronted with a difficult decision. Its sole orientation was national security. The tests undertaken on May 11 and 13, 1998 were a continuation of the strategies put in place to propel India toward self-sufficiency in thinking and independence in action (Parliament of India Lok Sabha, 1998).

Not Country Specific. These tests were not directed at any one country; rather, they were conducted to reassure the Indian public about their security and to demonstrate that India has the capability and commitment to protecting its national security interests. India reaffirmed its commitment to dialogue and the fact that preserving India's security does not create a conflict of interest with its neighbours. The Prime Minister stated, “India, mindful of its international obligation, shall not use these weapons to commit aggression or to mount threats against any country; these are weapons of self-defence and to ensure that, in turn, India is not also subjected to nuclear

threats or coercion" (Parliament of India Lok Sabha, 1998). On this occasion, the government restated its willingness to consider a "no-first-use" deal with Pakistan and with other nations bilaterally or in a multilateral forum.

Indian Conviction: Global Elimination of Nuclear Weapons. India is committed to the fundamental principle of her foreign policy: the notion that the worldwide elimination of nuclear weapons will strengthen both India's and the world's security. It will continue to press governments, particularly other nuclear-weapon states, to take substantial steps toward this goal. India's government had previously announced that in the wake of the tests, it will observe a voluntary moratorium and abstain from performing underground nuclear test explosions. Thus, the CTBT's fundamental requirement of abstaining from nuclear test explosions was met. This voluntary statement aimed to demonstrate India's commitment to the world community. The primary objective of the Fissile Material Cut-off Treaty (FMCT) was to prohibit the production of fissile materials for use in nuclear weapons or explosive devices in the future. In 1993, India had also signalled a willingness to join in discussions on a Fissile Material Cut-off Treaty (FMCT) at the Geneva Conference on Disarmament. (Parliament of India Lok Sabha, 1998).

India: The Responsible Nuclear State. India has successfully transformed itself into a responsible nuclear state after crossing the nuclear rubicon. Though India did not immediately produce a document outlining its nuclear doctrine following the tests, the first was released on August 17, 1999, as a "Draft Report of the National Security Advisory Board on Indian Nuclear Doctrine." Though the report was not a government policy document, it was de facto considered to be the Indian Nuclear Doctrine until the Cabinet Committee on Security (CCS) released a summary of the operationalized Nuclear Doctrine on January 4, 2003, via a formal press release by the

Ministry of External Affairs. The "No First Use" (NFU) policy is a central tenet of India's nuclear ideology. Since 2003, the NFU policy had defined India's nuclear doctrine. The country's promise not to use nuclear weapons first as proof of its 'responsible' status has been repeatedly questioned for its ability to provide deterrence against its two nuclear enemies.

Summary

India adopted non-alignment to strengthen the country with its own resources and people's commitment. Pandit Jawaharlal Nehru, India’s first Prime Minister, had pioneered scientific and technological achievements in India. It was Dr Homi Bhabha who had conceived India's nuclear programme, which was supported and encouraged by Shri Pandit Nehru. Since independence, India has invested in nuclear technology to derive atomic energy for peaceful purposes. The visionaries at that time had the foresight to keep the option of weaponization alive for “self-enlightenment” and for the national security of India.

On May 18, 1974, India tested a fission weapon, which was ordered by Indira Gandhi. The 1974 Pokhran nuclear test severely harmed India's civilian nuclear programme. Its progress was limited by a lack of local resources and a reliance on foreign technologies. The failure of global disarmament, compounded by an adverse regional security environment, compelled India to go nuclear. On May 11 and 13, 1998, India conducted five nuclear tests. The tests validated India's nuclear weapon design capabilities.

India's foreign policy has always included disarmament. In 1965, India proposed a global non-proliferation treaty with non-aligned states. In 1993, at the Geneva Conference on Disarmament, India had expressed interest in negotiations on a

fissile material cut-off deal. Notwithstanding, being a responsible state, India continued to make an appeal for the elimination of nuclear weapons.

The NFU policy had been a cornerstone of Indian nuclear doctrine. The ability of India's commitment not to use nuclear weapons first to deter nuclear adversaries had always been questioned. The NFU stand had been explicitly stated in both the "Draft Report of the National Security Advisory Board on Indian Nuclear Doctrine" of 1999 and the Summary of the operationalized Nuclear Doctrine on January 4, 2003.

CHAPTER V

NUCLEAR DETERRENCE THEORY AND NUCLEAR DOCTRINES

"Our nuclear weapons are meant purely as a deterrent against nuclear adventure by an adversary."[7]

- Former Prime Minister of India, Shri Atal Bihari Vajpayee

Background

The challenge of deterrence—discouraging states from taking unwanted actions, especially military aggression—has again become a principal theme after World War II (Mazarr & RAND, 2018). In common parlance, deterrence suggests either a policy or a situation. The policy of deterrence is usually a calculated attempt to induce an adversary to either do something or refrain from doing something by issuing threats, primarily in the political, military, and economic activities of world politics (Menon, 2018).

However, nuclear weapons, with their terrifying destructive potential, did not provide deterrence with a new meaning. Rather than that, deterrence's effectiveness was challenged if both opponents possessed nuclear weapons and were unable to defend themselves against nuclear weapons. The concept of nuclear deterrence is based on the ability to deter conflict by first-use or retaliation with nuclear weapons (Menon, 2018).

[7] Times of India. (2018, August 16). Atal Bihari Vajpayee Quotes: Motivational and inspirations quotes by 10th Prime Minister of India - Times of India. The Times of India. https://timesofindia.indiatimes.com/life-style/events/atal-bihari-vajpayee-quotes-motivational-and-inspirations-quotes-by-10th-prime-minister-of-india/articleshow/65424304.cms

Understanding Deterrence

Mazarr & RAND (2018) define deterrence as "Deterrence is the practice of discouraging or restraining someone in world politics, usually a nation-state, from taking unwanted actions, such as an armed attack. It involves an effort to stop or prevent an action, as opposed to the closely related but distinct concept of 'compellance', which is an effort to force an actor to do something."

Morgan (2003) defines it as "sometimes difference is defined simply as threats of a forceful response to prevent some unwanted action, usually a military attack. However, for purposes of theory building deterrence has generally been conceived as an effort by one actor to convince another to not attack by using threats of a forceful response to alter the others cost-benefit calculations".

The distinction between deterrence and compellance is quite abstract; in confrontations, they are often present together and virtually indistinguishable. Nevertheless, compellance is considered harder than deterrence (Morgan, 2003).

Deterrence by Denial

"Deterrence by denial strategies seek to deter an action by making it infeasible or unlikely to succeed, thus denying a potential aggressor confidence in attaining its objectives—deploying sufficient local military forces to defeat an invasion." (Mazarr & RAND, 2018).

Deterrence by denial is effectively nothing more than the application of an intention and effort to defend a commitment. A capability to deny equates to a capability to defend; "while deterrence and defence are analytically distinct, they are in practice inextricably linked" (Mazarr & RAND, 2018). The most frequently used measure for assessing the health of a deterrent threat based on denial capabilities is the

immediate balance of forces in contested territory. Deterrence by denial cannot be equated solely with military balances.

Deterrence by Punishment

Mazarr & RAND (2018) define deterrence by punishment as "Deterrence by punishment, threatens severe penalties, such as nuclear escalation or severe economic sanctions, if an attack occurs. These penalties are connected to the local fight and the wider world. The focus of deterrence by punishment is not the direct defence of the contested commitment but rather threats of wider punishment that would raise the cost of an attack."

Comparison: Deterrence by Denial and Punishment

According to the majority of classic studies, denial methods are intrinsically more reliable than punishment strategies. Steps were taken to deny them, such as actively confronting an aggressor with significant military capabilities, speaking loudly and plainly. On the other hand, an attacker may have reservations about a defender's willingness to impose sanctions. Additionally, an aggressor may convince itself that the defender will be hesitant to carry out threats of punishment due to associated risks, such as additional escalation, that the deterring state may be unwilling to run once the moment arrives (Mazarr & RAND, 2018). There are some threats that a state would prefer not to carry out, and deterrence can deteriorate when an aggressor believes the defender would eventually demonstrate an unwillingness to carry out its threats.

Direct versus Extended Deterrence

"Deterrence can be used in two sets of circumstances. Direct deterrence consists of efforts by a state to prevent attacks on its own territory. Extended deterrence involves discouraging attacks on third parties, such as allies or partners"(Mazarr &

RAND, 2018). During the Cold War, direct deterrence meant stopping a Soviet nuclear assault on American soil; extended deterrence meant preventing a Soviet conventional attack on NATO members.

General versus Immediate

"General deterrence" is the ongoing, persistent effort to prevent unwanted actions over the long term and in non-crisis situations. Immediate deterrence represents more short-term, urgent attempts to prevent a specific, imminent attack, most typically during a crisis. " According to the majority of studies, general deterrence is easier than immediate deterrence (Mazarr & RAND, 2018).

Given the probable patterns of future international politics, Morgan suggests that greater attention be paid to general deterrence as opposed to immediate deterrence and to examine the deterrent capabilities of collective actors such as NATO and the UN Security Council (Morgan, 2003).

Narrow versus Broad Concepts of Deterrence

Another important factor in deterrence is its scope: narrow or broad. Narrow deterrence refers solely to military tools of statecraft, using the threat of military response to prevent a state from taking any action (Mazarr & RAND, 2018). Broad deterrence keeps the focus on threats but expands the scope to nonmilitary actions, i.e., a state can deter using threats of economic sanctions, diplomatic exclusion, or information operations.

Three Fundamental Conditions for Successful Deterrence

Mazarr & RAND (2018) states that three influencing factors serve as the primary determinants of the success or failure of deterrence strategies.

1. **Level of Aggressor Motivation**. If a state believes that an attack is the only way to protect its interests, it may become nearly impossible to stop. Patrick Morgan remarked that "challenger motivation is the most important factor in deterrence success or failure.".

2. **Clarity About the Object of Deterrence and the Actions the Defender Will Take.** The criterion for successful deterrence is that the defender is as explicit as possible about what it is attempting to dissuade and what it will do if the threat is ignored.

3. **Aggressor Must Be Confident that Deterring State Has Capability and Will to Carry Out Threats**. The aggressor must believe that the defender possesses the capability and willingness to carry out the threat. The perceived capabilities of the defender, military or otherwise, must be strong enough to convince a potential attacker that aggressiveness will almost certainly result in severe consequences. Aggressors can attempt to undermine a defender's readiness to retaliate by employing a strategy known as "salami-slicing"—using a protracted sequence of low-level aggressions to alter the facts on the ground without ever taking action that would warrant a major response. Mazarr (2018) believes that a state's overall reputation for toughness and determination is critical for deterrence.

Views on Nuclear Deterrence

Rajagopalan & IDSA (1990) have deeply studied the theories of nuclear deterrence and raised their considered views on each of its typology and elements. He postulated various postures of nuclear deterrence and their practicability.

In less than a year after the atomic bombings of Hiroshima and Nagasaki, thinkers set out the broad outlines of the nuclear debate that continued through much

of the Cold War (Rajagopalan & IDSA, 1990). Though deterrence is itself not a new concept in military relations between states, it was the atomic bomb that created such devastating destruction as to make its use a serious punishment to deter war.

Nuclear Deterrence by Punishment

Rajagopalan & IDSA, 1990 state that "Deterrence by punishment seeks to prevent aggression by threatening unacceptable damage in retaliation, by the threat of punishment.". Nuclear strategies, such as Massive Retaliation and Assured Destruction are examples of deterrence by punishment. The condition, called Mutually Assured Destruction (MAD), was anticipated to establish a stable framework for mutual deterrence based on the idea that rational leaders on both sides would avoid provocative and hostile behaviour that could escalate into a mutually destructive nuclear war (Lo, 2003).

Rajagopalan & IDSA (1990) opine that the threat of punishment is credible only if the forces carrying out the punishment survive to complete their mission, thereby introducing the concept of "second-strike" into the lexicon of nuclear strategy. This concept refers to a nuclear force's ability to react after being struck first.

The criticism of “Massive Retaliation” and the conceptualization of “Assured Destruction” strategies highlight two fundamental concerns in nuclear deterrence through the threat of punishment: (1) the requirement for forces capable of surviving an enemy attack and (2) an understanding of the level of destruction required for deterrence to work (Rajagopalan & IDSA, 1990). The ability of a force to survive an enemy’s first strike, as well as the level of destruction that constitutes punishment, are both debatable.

Nuclear Deterrence by Denial

Rajagopalan & IDSA (1990) states that the concept of deterrence through denial is more complicated. It is difficult to categorise denialists as deterrence theorists because, at their core, denialists have a strong distrust of deterrence. The logic of denial begins at the point when deterrence fails. Deterrence may also fail due to the nuclear arsenal's vulnerability. The idea is that the strategic force's assumed vulnerability may entice the first attack by offering an attractive target.

Indeed, the actual distinction may not be between deterrence by punishment and deterrence by denial, but between deterrence and defence, because denialists' true purpose is defence, not deterrence (Rajagopalan & IDSA, 1990). Due to the destruction caused by nuclear war, deterrence is the primary option, but not a substitute for defence. Defence preparations, especially in the setting of nuclear war, make sense to denialists since they increase deterrence while simultaneously accounting for the likelihood of deterrence failure.

The requirements for a denial strategy were stringent, encompassing strategic defensive forces, strategic offensive forces, command and control, the ability to maintain central authority through nuclear exchanges, and adequate civil defence measures to ensure societal survival following a nuclear war (Rajagopalan & IDSA, 1990).

Existential Deterrence

Existential deterrence maintains that nuclear deterrence is essentially a function of both powers possessing survivable thermonuclear arsenals. Nuclear deterrence is predicated on the certainty of the damage that would ensue from the use of these weapons (Rajagopalan & IDSA, 1990). This threat of destruction serves as a

deterrent due to the undeniable amount of danger it implies and is founded on ambiguity about what could happen. Existential deterrence is ineffective in the absence of strong nuclear forces.

Minimum Deterrence

Recognizing the prohibitively high cost of resources required to sustain MAD, strategic thinkers in smaller nuclear powers sought to develop a nuclear doctrine capable of protecting their strategic objectives more affordably and effectively. Their reaction was "Minimum Deterrence," defined as the capability to launch a small number of nuclear bombs on a small number of counter-value targets in a retaliatory second strike. This was deemed adequate to discourage any attacker from employing nuclear weapons against the defending state. Chinese nuclear strategy, on the other hand, has gradually evolved toward "limited deterrence," with the broader objective of deterring conventional, theatre, and strategic war and containing escalation during the nuclear war (Lo, 2003).

Nuclear Credibility and Deterrence

Lo (2003) feels that nuclear credibility is a vital aspect in determining whether a deterrence relationship succeeds or fails. If a challenger is unable to convince a defender that it possesses the political will and credibility to use its nuclear arsenal to protect its interests, deterrence fails because the challenger no longer fears massive reprisal. The challenger is then free to pursue their stated objectives without interference or restraint from the defender. As a result, the deterrent state must demonstrate the political will to act by its stated nuclear doctrine and the willingness to use nuclear weapons to safeguard state interests if necessary.

No First Use Pledge in the Nuclear Deterrence Strategy

In nuclear strategy, an NFU commitment is a formal declaration by a nuclear weapon state that it will never be the first to use these weapons in a conflict, reserving them exclusively for retaliation against a nuclear strike on its territory or military forces. Panda (2018) comments that these commitments are an integral part of nuclear declaratory policies. Today, eight states recognise the importance of nuclear weapons in their national defence plans. Each of these states—the United States, China, Russia, the United Kingdom, France, India, Pakistan, and North Korea—has outlined the circumstances under which they would deploy these weapons in official documents and other statements. Israel has never admitted publicly to possessing nuclear weapons but is largely regarded as a nuclear-weapon state.

Nuclear Posture of Regional Power

The typology of regional power nuclear postures is distinctly different from the strategies of strong nuclear powers of the cold war era. The three nuclear postures of regional powers are (1) catalytic posture (2) assured retaliation posture, and (3) asymmetric escalation posture (Narang, 2014a).

Catalytic Posture. A "catalytic posture," which only has a few nuclear weapons, makes it clear that nuclear weapons could be used if the state's survival is in danger, to make or get third-party intervention on the state's behalf. For this to work, there must be a more powerful third-party patron who wants the region to stay stable, or who wants to keep the client state from having an overt nuclear breakout. If this patron exists, it might be forced to intervene on the client state's behalf to stop the situation from getting worse. As a result, it is a posture available only to regional powers, which can use it to supplement external balance and was by definition an option

unavailable to superpowers. For example, Israel and South Africa took this position for a long time during their nuclear histories (Narang, 2014a).

Assured Retaliation Posture. An "assured retaliation posture" is when a country develops nuclear weapons that can be used in a second strike if it is first attacked with a nuclear weapon. Unlike the catalytic posture, which relies on indirect deterrence through third-party intervention, the assured retaliation posture intends to directly deter nuclear attack and coercion. It does this by threatening an enemy with nuclear retaliation even after they've been attacked. The assured retaliation posture is marked by the presence of survivable second-strike forces that can hit an enemy's key strategic centres with definite, but not immediate, retaliation. By dispersing, concealing, and deceiving, or by using technical means (like sea-based systems), opponents can't be sure that they will be able to achieve a disarming first strike. In addition to having survivable nuclear forces, a state that has an "assured retaliation posture" has forces that can penetrate the enemy's defences and impose certain retaliation. There must also be more transparency about the state's abilities than there is in the catalytic posture so that the opponent does not have any doubts about the state's ability to use nuclear weapons in a conflict. This is what India and China have done (Narang, 2014a).

Asymmetric Escalation Posture. An asymmetric escalation posture makes sure that nuclear weapons can be used quickly and first in the event of a conventional attack. To deter conventional attacks, a state can quickly escalate its response to the first use of nuclear weapons against military or civilian targets. This is called an "asymmetric posture." Peacetime deployments can be spread out, but if nuclear weapons are to be credible deterrents to conventional attacks, they must be used as warfighting tools. The asymmetric escalator must be able to disperse and deploy

nuclear assets quickly, giving military end-users on the front lines of the battle the authority to use them in deterrence by denial mission against conventional forces or war-waging capacity of the enemy. When nuclear weapons are used to stop an enemy from achieving their military goal on the battlefield, this can be called "deterrence by denial." It can also be called "deterrence by punishment missions." This is thus the most aggressive option for nuclear states to choose from. It does not matter how many nuclear weapons there are. To gain credibility, asymmetric escalators need to be clear about how their capabilities are deployed and the broad conditions of their use. This can put a lot of pressure on command and control and make it more likely that nuclear weapons will be used inadvertently. The main thing that makes an asymmetric escalation posture different from a normal escalation posture is that it can and wants to use nuclear weapons in a tactical setting against an adversary's conventional forces (Narang, 2014a).

Table 1
Summary of Regional Power Nuclear Postures

Factors	Catalytic	Assured Retaliation	Asymmetric Escalation
Primary Envisioned Employment	Breakout capabilities to accelerate third party assistance	Nuclear retaliation following significant damage	Nuclear first use, primarily on conventional forces in denial mission
Capabilities	Ability to assemble a handful of nuclear weapons	Survivable second strike forces	First-use capabilities
Management	Recessed and opaque	Assertive political control	Delegative (assets and authority integrated into military forces and doctrine)

Continued to next page……

Factors	Catalytic	Assured Retaliation	Asymmetric Escalation
Level of Transparency	Ambiguous capability and deployment	Unambiguous capability; ambiguous and deployment	Unambiguous capability and deployment
Empirical Codings	Israel (1967-1990) South Africa (1979-1991) Pakistan (1986-1997)	China (1964–present) India (1974–present) Israel (1991-present)	France (1960-present) Pakistan (1998–present)
Source : (Narang, 2014a)			

Deterrence Model in a Trilateral Nuclear Setting in Indian Context

Indian nuclear strategy accounts for a complicated threat spectrum that includes two formidable rivals in Pakistan and China with whom it has long-running territorial disputes. The latter is superior to India in both conventional and nuclear capabilities, while the former has adopted a "first-use" nuclear doctrine with ambiguous red lines and a counter-escalatory conventional doctrine based on "quid-pro-quo-plus" in support of low-intensity proxy warfare. India has a singular doctrine to cater to the entire nuclear-conventional threat spectrum (Mitra, 2020). Both the NFU and the massive retaliation seek to deter both Pakistan and China.

Nuclear Doctrines of the Nuclear Weapon States and Nuclear Weapons Possessors

The nuclear-weapon states (NWS) are the five states namely the United States, Russia, China, France and the United Kingdom which had officially been recognized

as possessing nuclear weapons by the Non-Proliferation Treaty (NPT). India, Israel, and Pakistan have never joined the Non-Proliferation Treaty (NPT), but are known to possess nuclear weapons. In 1974, India conducted its first nuclear test. This test prompted Pakistan to accelerate efforts on its clandestine nuclear weapons programme. India and Pakistan both conducted their nuclear weapon tests in May 1998. Israel has not publicly performed a nuclear test, does not accept or deny having nuclear weapons, and claims that it will not be the first country in the Middle East to use nuclear weapons. North Korea had joined the NPT as a non-nuclear-weapon state but in 2003 announced its withdrawal from the NPT, which is a move that has not been legally recognized by the other NPT member states. But it is known that North Korea had tested nuclear devices and nuclear-capable ballistic missiles.

United States of America: Nuclear Review Posture, 2018

Nuclear Review Posture is the master document that outlines the nuclear posture of the USA. The Nuclear Review Posture is reviewed periodically, and the present version is of 2018.

Office of the Secretary of Defense (2018) states about Nuclear Review Posture as "*this review rests on a bedrock truth: nuclear weapons have and will continue to play a critical role in deterring nuclear attack and in preventing large-scale conventional warfare between nuclear-armed states for the foreseeable future. U.S. nuclear weapons not only defend our allies against conventional and nuclear threats, but they also help them avoid the need to develop their own nuclear arsenals. This, in turn, furthers global security*."

Deterrence Principles. The principles of nuclear deterrence from Nuclear Review Posture 2018 are reproduced below (Office of the Secretary of Defense, 2018):

- *"U.S. deterrence strategy prevents attacks by influencing an adversary's decision-making, ensuring they see no gain in attacking the United States or our allies.*

- *Deterrence encourages restraint by convincing adversaries if they choose to use nuclear weapons, we can, and will impose unacceptable costs that far outweigh any achievable gains.*

- *Our nuclear deterrent is effective because potential adversaries know the United States possesses the necessary capabilities to deny them the benefits they seek, impose unacceptable costs and the unquestionable will to do so if necessary"* (Office of the Secretary of Defense, 2018).

Roles of Nuclear Forces. *"Given the diverse threats and profound uncertainties of the current and future threat environment, U.S. nuclear forces play the following critical roles in U.S. national security strategy. They contribute to the* (Office of the Secretary of Defense, 2018):

- *Deterrence of nuclear and non-nuclear attack;*

- *Assurance of allies and partners;*

- *Achievement of U.S. objectives if deterrence fails; and*

- *Capacity to hedge against an uncertain future*." (Office of the Secretary of Defense, 2018)

Further, the Office of the Secretary of Defense (2018) reiterates "*there is no "one size fits all" for deterrence. Consequently, the United States will apply a tailored and* ***flexible approach*** *to effectively deter across a spectrum of adversaries. Tailored deterrence strategies communicate to different potential adversaries that their*

aggression would carry unacceptable risks and intolerable costs according to their particular calculations of risk and cost."

"*The United States has formally extended deterrence commitments that assure European, Asian, and Pacific allies. Assurance is a common goal based on collaboration with allies and partners to deter or defeat the threats we face. No country should doubt the strength of our extended deterrence commitments or the strength of U.S. and allied capabilities to deter, and if necessary, defeat, any potential adversary's nuclear or non-nuclear aggression.* " (Office of the Secretary of Defense, 2018).

"*To help preserve deterrence and the assurance of allies and partners, the United States* ***has never adopted a "No First Use" policy*** *and, given the contemporary threat environment, such a policy is not justified today. It remains the policy of the United States to retain some* ***ambiguity*** *regarding the precise circumstances that might lead to a U.S. nuclear response.* " (Office of the Secretary of Defense, 2018). It implies that the United States has adopted an ambiguous and flexible response posture of "First Use".

Sethi (2018) opines that Nuclear Review Posture, 2018 tends to legitimise low yield nuclear weapons and to lend acceptability to the concept of limited nuclear use. While the NPR predicts unthinkable destruction as a result of any first nuclear use, it is also implying that Russia's escalate to de-escalate approach would be deterred by the possession of low yield options.

The Biden Administration is revising the Nuclear Posture Review 2018 (NPR), which began in July 2021 and is scheduled to conclude in early 2022. President Biden has previously stated his support for a "sole purpose" nuclear weapons policy, which some equate to a "No First Use" pledge. A "No First Use" policy would be a

departure from the current policy, in which the US has pledged to abstain from using nuclear weapons against the majority of non-nuclear-weapon states but has not ruled out their use in all circumstances or specified the circumstances under which they would be used. This is a "calculated ambiguity" policy (Woolf & Congressional Research Service, 2021).

Russia: Foundations of State Policy of the Russian Federation in the Field of Nuclear Deterrence

On June 2, 2020, the Russian Federation published a new document titled "Foundations of State Policy of the Russian Federation in the Field of Nuclear Deterrence." (Oliker, 2020). In this document, for the first time, Russia has laid out its official position on nuclear deterrence. The Foundations are structured into four sections. These are:

- General principles
- Essence of deterrence (that is, what deterrence means to Russia).
- Conditions under which Russia would shift to nuclear use.
- Roles of government institutions and agencies.

General Principles. "Nuclear deterrence is defensive, meant to guarantee Russia's ability to secure its sovereignty and territorial integrity (and that of allies). Nuclear weapons are only for deterrence. Their purpose is to prevent aggression against Russia (and its allies). Its use is a last resort. " (Oliker, 2020). Russian nuclear weapons are to be maintained at a "minimally sufficient" level.

The Essence of Deterrence and Nuclear Use. "The Russian Federation shall reserve the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and/or its allies, as well as in the event

of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy." The new foundations outline four conditions that could allow for nuclear use (Oliker, 2020):

- "Credible information that Russia is under ballistic missile attack (the missiles don't have to be nuclear—this isn't specified—but in many cases, it's hard to tell before they land);
- The use of nuclear or other WMD by an adversary against Russian territory or that of its allies;
- Adversary actions against Russian critical government or military infrastructure that could undermine Russia's capacity for nuclear retaliation (so, for example, a cyberattack on Russia's command and control—or perhaps one that targets Russian leadership could also qualify); and, finally,
- Conventional aggression against Russia that threatens the very existence of the state."

US Understanding of Russian Nuclear Policy. The US interprets Russian nuclear policy as "Russia mistakenly assesses that the threat of **nuclear escalation or actual first use of nuclear weapons** would serve to "**de-escalate**" a conflict on terms favourable to Russia. These mistaken perceptions increase the prospect of dangerous miscalculation and escalation. Russia's belief that limited nuclear first use, potentially including low-yield weapons, can provide such an advantage. Recent Russian statements on this evolving nuclear weapons doctrine appear to lower the threshold for Russia's first use of nuclear weapons." (Office of the Secretary of Defense, 2018).

"Escalate to De-escalate". According to the US National Policy Review 2018, Russia's nuclear strategy is to threaten or use nuclear weapons early in a

previously conventional, low-stakes confrontation for military advantage, including discouraging the adversary from further action. Threats of escalation have the potential to de-escalate conflict, even in the nuclear world. The first use is permitted only in the event of an existential threat to Russia or its deterrence. However, if those circumstances are realised and Russia decides to use nuclear weapons, it will do so to avoid further escalation and end the conflict in a way acceptable to Russia (Oliker, 2020).

Panda (2018) opines that today, Russia's military doctrine states that the country will deploy nuclear weapons in response to conventional forces attacking the country and posing an existential danger, or in reprisal for a nuclear or WMD attack.

China: China's National Defense in the New Era 2019

A “No First Use” policy on nuclear strategy was first publicly made by China in 1964. Since its declaration, China has consistently reiterated its commitment to NFU policy in its Defence White Papers. China has publicly called on nuclear weapon states to create and join a multilateral NFU treaty—a Treaty on Mutual No-First-Use of Nuclear Weapons (Panda, 2018). So far, there has been no public debate on China’s NFU policy, but some strategists doubt the credibility of China’s pledge.

The components of China’s nuclear ambiguity are; its People's Liberation Army Rocket Force (PLA RF) has a mix of conventional-nuclear warheads, has built-in ambiguity related to the “No-First Use” pledge and its possible development of tactical nuclear weapons. China’s nuclear doctrine is discussed in detail in a subsequent chapter.

France - Nuclear Deterrence Doctrine

The new nuclear deterrence strategy announced in January 2006 has been properly hailed as a watershed moment, even though several of the fundamental policy changes were declared in June 2001. While France remains committed to deterring large power threats, its primary new objective is to deter regional powers by articulating the development of more employable nuclear options (Panda, 2018). The capacity of French nuclear forces is based on the notion of sufficiency**,** which is close to "minimum deterrence".

"The French concept remains exclusively intended to deter any form of aggression against vital interests, the definition of which would be appreciated by the President of the Republic. This deterrence is primarily exercised by the threat of unacceptable damage. " (Tertrais, 2020).

Since it first developed and tested nuclear weapons during the Cold War, France has maintained a first-use nuclear posture. The withdrawal from NATO in 1966 gave France the sovereign ability to determine how and when it would use its nuclear weapons. France pioneered the concept of a pre-strategic strike for a conventional invasion, threatening limited nuclear first use as a way to signal that it was contemplating escalation to the strategic nuclear level. France rejoined NATO in 2009 but maintained its nuclear forces outside the organization's military coordination mechanisms (Panda, 2018). Today, France has inherited the independence in the decision and has retained the “First Use” posture to discourage any form of attack or invasion.

The United Kingdom – Nuclear Strategy

"*The purpose of nuclear deterrence is to preserve peace, prevent coercion, and deter aggression. Potential aggressors know that the cost of attacking the UK, or our NATO allies, could far outweigh any benefit they could hope to achieve. This deters states from using their nuclear weapons against us or carrying out the most extreme threats to our national security*. " (The UK's Nuclear Deterrent: What You Need to Know, 2022).

"*The UK maintains only the minimum amount of destructive power needed to guarantee our deterrent remains credible and effective against the full range of state nuclear threats.* ***We are deliberately ambiguous about precisely when, how, and at what scale we would use our weapons****. This ensures the deterrent's effectiveness is not undermined and complicates the calculations of a potential aggressor.* " (The UK's Nuclear Deterrent: What You Need to Know, 2022)

The UK's official document maintains an **ambiguous nuclear posture** that does "not rule out or rule in the first use of nuclear weapons." (Panda, 2018). The UK remains committed to the ultimate goal of a world without nuclear weapons and supports the full implementation of the Treaty on the Non-Proliferation of nuclear weapons (NPT) in all its aspects. There is no credible alternative route to disarmament.

India – Operationalisation of Indian Nuclear Doctrine 2003

India declared its nuclear doctrine through a press release by the Ministry of External Affairs, Government of India dated January 4, 2003, "The Cabinet Committee on Security Reviews the Operationalization of India's Nuclear Doctrine." It revealed limited information to the public.

India maintains a declared NFU posture, with exceptions for chemical and biological weapons attacks. In its 1999 draft nuclear doctrine, India announced that it "will not be the first to initiate a nuclear strike, but will respond with punitive retaliation should deterrence fail." The summary of India's final nuclear doctrine, released in 2003, stated that "in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons." Indian public statements on nuclear weapons continue to emphasize the NFU policy (Panda, 2018). However, the recent statements by prominent former officials and ministers of the Government of India triggered a thought process to review the "No First Use" policy. The elements of the Indian Nuclear Doctrine are elaborately discussed in Chapter VI subsequently.

Pakistan: Nuclear Use Policy

Pakistan has no stated official nuclear doctrine, but through statements, it has de-facto declared a nuclear "First-Use" policy to deter Indian overwhelming conventional attack. Islamabad has left the precise threshold for its nuclear use ambiguous. Pakistani officials and strategists have been consistent in their support of a first-use posture. Today, Pakistan is considering full spectrum deterrence to include tactical nuclear weapons.

The new missile system NASR (Hatf IX), which is a tactical nuclear weapon (TNWs), is intended to enable battlefield use, thereby lowering its nuclear threshold. It claims to have achieved "Full Spectrum Deterrence" strengthening its irrationality to use nuclear weapons first.

North Korea – A Nuclear-Capable States

According to Panda (2018), North Korea has not ruled out the use of nuclear weapons as a deterrent against a pre-emptive strike or invasion by the US and its allies. If the government detects an imminent attack by the US or its allies, it will unleash nuclear weapons against military locations in East Asia and Guam. North Korea's intercontinental ballistic missiles would not be deployed first, but they would serve to discourage retaliatory nuclear use or an invasion of its land by the US.

Israel – Debate on Possession of Nuclear Weapons

Israel has not confirmed nor disputed its nuclear weapons capability, but it is believed to have produced a limited arsenal over fifty years ago, essentially becoming a nuclear-weapon state. In line with the opacity of nuclear weapons, Israel has made no authentic nuclear weapons policy, but its leaders in the past have stated that Israel would "not be the first to introduce nuclear weapons to the Middle East" but that it would also "not be the second to introduce this weapon" (Panda, 2018).

Status of Global Nuclear Arsenals & Estimation for 2022

Status of Global Nuclear Arsenals 2021

The nuclear stockpiles of both the United States and the Soviet Union/Russia numbered in the tens of thousands at the time the NPT was signed. Beginning in the 1970s, US and Soviet/Russian officials negotiated a series of bilateral arms control agreements and initiatives that limited and eventually contributed to reducing, the size of their nuclear arsenals.

At the beginning of 2021, the nine nuclear-armed states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel, and North Korea

possessed an estimated 13080 nuclear weapons. This was a reduction from the 13400 that was anticipated at the start of 2020.

Table 2
World Nuclear Forces, January 2021

Country	Deployed warheads*	Other warheads**	Total 2021	Total 2020
USA	1 800	3 750	5 550	5 800
Russia	1 625	4 630	6 255	6 375
UK***	120	105	225	215
France	280	10	290	290
China		350	350	320
India		156	156	150
Pakistan		165	165	160
Israel		90	90	90
North Korea****	...	[40–50]	[40–50]	[30–40]
Total	3825	9255	13080	13400

*'Deployed warheads' refers to warheads placed on missiles or located on bases with operational forces.
**'Other warheads' refers to stored or reserve warheads and retired warheads awaiting dismantlement.
***The British Government declared in 2010 that its nuclear weapon inventory would not exceed 225 warheads.
****The figures for North Korea are SIPRI's estimates of the number of warheads that North Korea could potentially build with the amount of fissile material it has produced.

Source: SIPRI Yearbook 2021 (SIPRI, 2021).

Despite this general decline, the estimated number of nuclear weapons now deployed with operational forces has climbed to 3825, up from 3720 the previous year. While the United States and Russia continued to reduce their overall nuclear weapon stocks in 2020 by dismantling retired warheads, both are projected to have had roughly 50 more nuclear warheads in active deployment at the start of 2021 than the previous year.

Russia and the United States own more than 90% of the world's nuclear weapons. Both are undertaking massive and costly programmes to replace and modernise their nuclear weapons, missile and aircraft delivery systems, and

manufacturing facilities. All of the other seven nuclear-weapons states are either developing or deploying new weapon systems, or have stated their desire to do so. China is amid a substantial modernization and development of its nuclear arsenal, while India and Pakistan look to be expanding their nuclear arsenal.

Estimation of Nuclear Forces for 2022

The number of warheads in worldwide military stockpiles which includes warheads assigned to operational forces is expanding once again, in contrast to the overall inventory of nuclear weapons. The United States is still gradually reducing its nuclear arsenal. France and Israel have stockpiles that are reasonably constant. However, China, India, North Korea, Pakistan, the UK, and possibly Russia are all thought to be growing their stockpiles. The estimation of the nuclear forces for 2022 is as given below :

Table 3
Status of World Nuclear Forces 2022

Country	Deployed Strategic	Deployed Nonstrategic	Reserve/ Nondeployed	Military Stockpile	Total Inventory
Russia	1,588	0	2,889	4,477	5,977
USA	1,644	100	1,964	3,708	5,428
France	280	NA	10	290	290
China	0	?	350	350	350
UK	120	NA	60	180	225
Israel	0	NA	90	90	90
Pakistan	0	NA	165	165	165
India	0	NA	160	160	160
N Korea	0	NA	20	20	20
Total	3,632	100	5,708	9,440	12,705

- Deployed strategic warheads - deployed on intercontinental missiles and at heavy bomber bases.
- Deployed nonstrategic warheads - deployed on bases with operational short-range delivery systems.
- Reserve/Nondeployed warheads - not deployed on launchers but in storage.
- Military Stockpile - includes active and inactive warheads that are in the custody of the military and earmarked for use by commissioned deliver vehicles.
- Total inventory - includes warheads in the military stockpile as well as retired, but still intact, warheads in the queue for dismantlement.

Source : (FAS, 2022)

More than 9,400 of the world's 12,700 nuclear warheads are in military stockpiles, ready to be used by missiles, aircraft, ships, and submarines. The remaining warheads have been retired, but they are still in good condition and are being dismantled). Approximately 3,730 of the military's 9,440 warheads are deployed with active forces (on missiles or bomber bases). Around 2,000 US, Russian, British, and French warheads are on high alert, ready to be used at any time.

Relevance of Quantum of Nuclear Assets to the Doctrines. Does the quantum of nuclear assets of the nuclear-weapon states and nuclear weapon possessors influence their respective Nuclear Doctrines? To a certain extent, the quantum of nuclear arsenal does influence the boldness of their nuclear doctrines. In the context of the Indian subcontinent, it is the capability of India, China and Pakistan to inflict destruction or devastation embolden them to adopt the "First Use"; whereas the capacity to survive the adversaries' first strike reassure them to adopt "No First Use". Therefore, the quantum of nuclear assets of the three countries influenced respective Nuclear Doctrines.

Summary

The challenge of deterrence—discouraging states from taking unwanted actions, especially military aggression—has again become a principal theme after World War II. Though deterrence is itself not a new concept in military relations between states, it was the atomic bomb that created such devastating destruction as to make its use a serious punishment to deter war.

Deterrence by punishment seeks to prevent aggression by threatening unacceptable damage in retaliation with the threat of punishment. Assured Destruction and Massive Retaliation are examples of deterrence by punishment. Nuclear deterrence

is predicated on the certainty of destruction that would ensue from the use of these weapons. In nuclear strategy, an NFU is any formal declaration by a nuclear weapon state that it will never be the first to use these weapons in a conflict. These commitments are an integral part of nuclear declaratory policies.

Nuclear Posture Review (NPR) 2018 of the USA tends to legitimise low-yield nuclear weapons and the same is undergoing a review under the new administration. For the first time, Russia has laid out its official position on nuclear deterrence. Russia assesses that the threat of nuclear escalation or actual use of nuclear weapons would serve to de-escalate a conflict. France's new nuclear deterrence strategy, announced in 2006, has been hailed as a watershed moment and has always maintained a first-use nuclear posture. The UK maintains an ambiguous posture that does "not rule out or rule in the first use of nuclear weapons." India maintains a declared nuclear first-use posture. Pakistan has de-facto declared the first-use policy to deter Indian overwhelming conventional attack. North Korea has not ruled out the use of nuclear weapons as a deterrent against a pre-emptive strike or invasion by the US and its allies.

Indian nuclear strategy accounts for a complicated threat spectrum that includes two formidable rivals in Pakistan and China. China is superior to India in both conventional and nuclear capabilities, while Pakistan has adopted a 'first-use' nuclear doctrine with ambiguous red lines**.**

NFU and the massive retaliation have been a preferred option against China and Pakistan. However, Pakistan’s first-use doctrine and incorporation of tactical nuclear weapons in its force posture have led analysts to call for the substitution of the two. China has a declared NFU, which may be ambiguous against India. So, does India need to redefine its deterrence theory to have a bifurcated Nuclear Doctrine? The nuclear weapon strategy will be further be discussed in the Indian Context.

CHAPTER VI

UNDERSTANDING INDIA'S NUCLEAR DOCTRINE

"India is now a nuclear weapon state. This is a reality that cannot be denied. It is not a conferment that we seek; nor is it a status for others to grant. It is an endowment to the nation by our scientists and engineers. It is India's due, the right of one-sixth of humankind. " [8]

- ***Former Prime Minister of India, Shri Atal Behari Vajpayee***

Background

The deteriorating security environment, particularly the nuclear environment, that India has faced in recent years had forced it to conduct a limited number of nuclear tests. As a neighbour, China, an open nuclear-weapon state, committed military aggression against India in 1962. To compound the misery, China has materially assisted Pakistan, another of India's neighbours, in becoming a clandestine nuclear-weapons state. Also, India has been the victim of three Pakistani aggressions in the past fifty years. Additionally, India has been the victim of unrelenting terrorism, militancy, and proxy war sponsored by Pakistan for the past decade. Due to the continued danger presented to India by the overt and covert deployment of nuclear weapons, India had been compelled to conduct these tests to maintain a credible option in the event they are required for India's security (Government of India, 1998).

[8] Parliament of India Lok Sabha. (1998, May). Evolution of India's Nuclear Policy. Lok Sabha, Parliament of India. http://loksabhaph.nic.in/Debates/Result12.aspx?dbsl=249

India has been rightfully called a "reluctant nuclear power." No other country in the world permitted a gap of twenty-four years between its first nuclear test and proclaiming itself a nuclear weapons state. No country has fought as hard for nuclear disarmament as India, which was eventually forced to declare itself a nuclear weapons state due to its highly precarious security status. Two of its neighbours were with a history of nuclear proliferation (Subrahmanyam, 2009).

On May 11, 1998, the Indian government released a statement declaring the successful conduct of three underground nuclear tests at the Pokhran range. Two days later, the government proclaimed the conclusion of the scheduled set of tests after conducting two further subterranean sub-kiloton tests (Government of India, 1998). Following the nuclear tests on May 11 and 13, 1998, the Government of India, New Delhi, issued a press release on May 15, 1998, to be sent by the Permanent Mission of India to the United Nations Organization in Geneva. The press statement was intended to communicate India's disappointment to the Security Council, which on May 14, 1998, issued a Presidential Statement expressing worry over India's nuclear-weapon tests. India affirmed that she is a responsible member of the world community and has continuously backed the United Nations' nuclear disarmament efforts. Subsequently, on May 17, 1998, India published a Joint Statement by the Department of Atomic Energy (DAE) and the Defence Research and Development Organization (DRDO) praising the tests as the conclusion of years of pioneering effort and highlighting scientific achievements (Government of India, 1998).

The two legitimate documents that laid out the general principles for developing, deploying, and employing India's nuclear forces were as follows:

- The Draft Report of the National Security Advisory Board (NSAB) on Indian Nuclear Doctrine was released to the public on August 17, 1999. (National Security Advisory Board, 1999).

- Press Releases by the Ministry of External Affairs, Government of India dated January 4, 2003, "The Cabinet Committee on Security Reviews the Operationalization of India's Nuclear Doctrine." (Ministry of External Affairs, Government of India, 2003).

Draft Report on Indian Nuclear Doctrine 1999[9]

The Indian government established a Task Force in April 1998 to suggest the creation of a National Security Council (NSC). The Task Force issued its recommendations in June 1998, and the government established a three-tiered NSC in November 1998, complete with a full-time National Security Advisor and a National Security Advisory Board (NSAB). Although the NSAB's initial purpose was to perform a strategic defence review, due to post-Pokhran II imperatives, the NSAB was directed to first define India's nuclear doctrine. Since the NSAB was an informal group of strategic specialists and analysts, the "Draft Report of the National Security Advisory Board (NSAB) on Indian Nuclear Doctrine" of 1999 was not a policy document of the Government of India (Chari, 2000).

"The draft document outlines the broad principles for the development, deployment, and employment of India's nuclear forces. Details of policy and strategy

[9] National Security Advisory Board. (1999, August 17). Draft Report of National Security Advisory Board on Indian Nuclear Doctrine. Ministry of External Affairs, Government of India. Retrieved November 12, 2021, from https://mea.gov.in/in-focus-article.htm?18916/draft+report+of+national+security+advisory+board+on+indian+nuclear+doctrine#disarnment

concerning force structures, deployment and employment of nuclear forces will flow from this framework and will be laid down separately and kept under constant review." (National Security Advisory Board, 1999). The Draft Report on Nuclear Doctrine is organised under the headings given below. The report in original is attached as **Appendix 2,** but most relevant to the research as highlighted below are discussed in the subsequent paragraphs:

- **Preamble**
- **Objectives**
- Nuclear Forces
- **Credibility and survivability**
- Command and Control
- Security and Safety
- Research and Development
- **Disarmament and arms control.**

Preamble

The draft nuclear doctrine opens with a preamble that emphasises the threat posed by nuclear weapons, the Non-Proliferation Treaty's shortcomings, and the nuclear-armed nations' apathy toward nuclear disarmament. It then expresses India's commitment to a just and peaceful international order while safeguarding its strategic autonomy. The preamble finally notes that the nuclear doctrine "outlines the broad principles for the development, deployment, and employment of India's nuclear forces." (Chari, 2000).

Objectives of the Indian Nuclear Doctrine

The section on "Objectives" emphasises India's need for an effective, credible nuclear deterrent as well as strong punitive capabilities in the event of deterrence failure. The requisite nuclear forces would be constructed to fulfil these requirements but would be dynamic to account for unanticipated changes. A commitment is made to a no-first-use policy. The proposed doctrine establishes the following seven objectives [reproduced from the original document (National Security Advisory Board, 1999)]:

> *"1. In the absence of global nuclear disarmament, India's strategic interests require effective, credible nuclear deterrence and adequate retaliatory capability should deterrence fail. This is consistent with the UN Charter, which sanctions the right of self-defence.*
>
> *2. The requirements of deterrence should be carefully weighed in the design of Indian nuclear forces and in the strategy to provide for a level of capability consistent with maximum credibility, survivability, effectiveness, safety and security.*
>
> *3. India shall pursue a doctrine of credible minimum nuclear deterrence. In this policy of "retaliation only", the survivability of our arsenal is critical. This is a dynamic concept related to the strategic environment, technological imperatives, and the needs of national security. The actual size, components, deployment and employment of nuclear forces will be decided in the light of these factors. India's peacetime posture aims at convincing any potential aggressor that:*
>
> > *(a) Any threat of use of nuclear weapons against India shall invoke measures to counter the threat. and*

(b) any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.

4. The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons by any state or entity against India and its forces. India will not be the first to initiate a nuclear strike but will respond with punitive retaliation should deterrence fail.

5. India will not resort to the use or threat of use of nuclear weapons against States which do not possess nuclear weapons or are not aligned with nuclear weapon powers.

6. Deterrence requires that India maintain:

(a) Sufficient, survivable and operationally prepared nuclear forces,

(b) A robust command and control system,

(c) Effective intelligence and early warning capabilities, and

(d) Comprehensive planning and training for operations in line with the strategy, and

(e) The will to employ nuclear forces and weapons

7. Highly effective conventional military capabilities shall be maintained to raise the threshold of outbreak both of conventional military conflict as well as that of threat or use of nuclear weapons. " (National Security Advisory Board, 1999).*"*

Credibility and Survivability

The Doctrine places considerable emphasis on deterrence credibility and the survivability of nuclear assets, and establishes the following concepts as key to India's nuclear deterrent strategy [reproduced from the original document (National Security Advisory Board, 1999)]:

> *"1.* ***Credibility****: Any adversary must know that India can and will retaliate with sufficient nuclear weapons to inflict destruction and punishment that the aggressor will find unacceptable if nuclear weapons are used against India and its forces.*
>
> *2.* ***Effectiveness****: The efficacy of India's nuclear deterrent be maximised through synergy among all elements involving reliability, timeliness, accuracy and weight of the attack.*
>
> *3.* ***Survivability****:*
>
> > *I. India's nuclear forces and their command and control shall be organised for very high survivability against surprise attacks and for rapid punitive response. They shall be designed and deployed to ensure survival against a first strike and to endure repetitive attrition attempts with adequate retaliatory capabilities for a punishing strike which would be unacceptable to the aggressor.*
> >
> > *II. Procedures for the continuity of nuclear command and control shall ensure a continuing capability to effectively employ nuclear weapons."*

Disarmament and Arms Control

India's commitment to nuclear disarmament and arms control would remain undiminished [reproduced from the original document (National Security Advisory Board, 1999)]:

> *"1. Global, verifiable and non-discriminatory nuclear disarmament is a national security objective. India shall continue its efforts to achieve the goal of a nuclear weapon-free world at an early date.*
>
> *2. Since no-first use of nuclear weapons is India's basic commitment, every effort shall be made to persuade other States possessing nuclear weapons to join an international treaty banning first use.*
>
> *3. Having provided unqualified negative security assurances, India shall work for internationally binding unconditional negative security assurances by nuclear weapon states to non-nuclear weapon states.*
>
> *4. Nuclear arms control measures shall be sought as part of national security policy to reduce potential threats and to protect our own capability and its effectiveness.*
>
> *5. In view of the very high destructive potential of nuclear weapons, appropriate nuclear risk reduction and confidence building measures shall be sought, negotiated and instituted."*

The Debate on the Draft Report on Indian Nuclear Doctrine

Though the Draft Report on Indian Nuclear Doctrine was not a Government of India policy, the debate over the prospective doctrine continued. As anticipated, the draft doctrine sparked a national discussion concerning the country's nuclear policies.

Kanwal (2001) opined that numerous analysts, as well as foreign countries, had attempted to cast doubt on India's draft nuclear policy.

It became evident that the majority of the criticism levelled at the proposed nuclear doctrine originates from actual disagreement with India's "No-First-Use" policy and its declared need for a "credible minimum nuclear deterrence". Kanwal (2001) highlighted that though the draft nuclear policy developed by the NSAB of 1999 had not yet been formally considered in Parliament, a strong national consensus existed on its key aspects.

Finally, after three years of debate, the government of India announced the operationalization of India's nuclear doctrine and disclosed limited information to the public through a press statement dated January 4, 2003.

The Cabinet Committee on Security Reviews the Operationalization of India's Nuclear Doctrine, January 4, 2003[10]

Being the only public document with calibrated language on Indian Nuclear Doctrine, the contents of the press release of the Government of India, Ministry of External Affairs, dated January 03, 2003, are reproduced from the original document (Ministry of External Affairs, Government of India, 2003) for better comprehension (refer to original document at **Appendix 3**):

"1. The Cabinet Committee on Security (CCS) met today to review the progress in operationalizing of India's nuclear doctrine. The Committee decided that the following information, regarding the nuclear doctrine and operational arrangements governing India's nuclear assets, should be shared with the public.

[10] Ministry of External Affairs, Government of India. (2003, January 4). The Cabinet Committee on Security Reviews operationalization of India's Nuclear Doctrine. MEA. Retrieved November 28, 2021, from https://mea.gov.in/press-releases.htm?dtl/20131/the+cabinet+committee+on+security+reviews+perationalization+of+indias+nuclear+doctrine

2. India's nuclear doctrine can be summarized as follows :

*I. Building and maintaining a **credible minimum deterrent**;*

*II. A posture of "**No First Use**": nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere;*

*III. Nuclear **retaliation** to a first strike will be **massive** and designed to inflict **unacceptable damage**.*

*IV. Nuclear retaliatory attacks can only be authorised by the **civilian political leadership** through the Nuclear Command Authority.*

*V. **Non-use** of nuclear weapons **against non-nuclear weapon states**;*

*VI. However, in the event of a **major attack against India, or Indian forces anywhere, by biological or chemical weapons**, India will retain the **option of retaliating with nuclear weapons**;*

*VII. A continuance of strict controls on export of nuclear and missile related materials and technologies, participation in the Fissile Material Cut-off Treaty negotiations, and continued **observance of the moratorium on nuclear tests**.*

*VIII. Continued **commitment to the goal of a nuclear weapon free world**, through global, verifiable, and non-discriminatory nuclear disarmament.*

3. The Nuclear Command Authority comprises a Political Council and an Executive Council. The Political Council is chaired by the Prime Minister. It is the sole body which can authorize the use of nuclear weapons.

4. The Executive Council is chaired by the National Security Advisor. It provides inputs for decision making by the Nuclear Command Authority and executes the directives given to it by the Political Council.

5. The CCS reviewed the existing command and control structures, the state of readiness, the targeting strategy for a retaliatory attack, and operating procedures for various stages of alert and launch. The Committee expressed satisfaction with the overall preparedness. The CCS approved the appointment of a Commander-in-Chief, Strategic Forces Command, to manage and administer all Strategic Forces.

6. The CCS also reviewed and approved the arrangements for alternate chains of command for retaliatory nuclear strikes in all eventualities." (Ministry of External Affairs, Government of India, 2003).

Comparison

Draft Report of 1999 and Press Release of Operationalisation 2003

Both the "Draft" and the "Operationalised" versions of India's nuclear doctrine had used distinct words to communicate the intent and comparison of both are tabulated below to understand the changes towards its maturity.

Table 4
Comparison of Draft Report on Indian Nuclear Doctrine (IND) of 1999 & Press Release on Operationalisation of IND of 2003

Draft Report IND - 1999	Operationalized IND - 2003	Differences
Credible Minimum Deterrence	**Credible Minimum Deterrence**	**No change**
Policy of "retaliation only" **No-first use** of nuclear weapons is India's basic commitment	Posture of **No First Use**	**No change**

Continued to next page……..

Draft Report IND - 1999	Operationalized IND - 2003	Differences
Any nuclear attack on India and **its forces** shall result in punitive retaliation	Nuclear retaliation against a nuclear attack on Indian territory or on **Indian forces anywhere**	Added anywhere to cater for nuclear attack on Indian forces in **enemy territory**
Punitive retaliation with nuclear weapons to inflict damage unacceptable	Retaliation will be **massive** to inflict unacceptable damage	Shift from **punitive** to **massive** Retaliation
Released for use at the **highest political level**	Authorised by the **civilian political leadership**	Amplification of decision making authority
Will **not use or threat of use** against **States do not possess nuclear weapons, or are not aligned** with nuclear weapon powers	**Non-use** against **non-nuclear weapon states**	Omitted both **'Threat of Use**' & '**States aligned to nuclear weapon powers**'
Any nuclear attack on India and its forces shall result in punitive retaliation	major attack against India, or Indian forces anywhere, **by biological or chemical weapons**, India will retain the option of retaliating with nuclear weapons	**Added option** to retaliate in case of **biological or chemical attack**
Will **not accept any restraints** on building its **R&D capability**	Observance of the **moratorium on nuclear tests**	No more tests, but **R&D without test is assumed to continue**
Continue its efforts to achieve the **goal of a nuclear weapon-free world**	Commitment to the **goal of a nuclear weapon-free world**	**No change**
Persuade other States possessing nuclear weapons to join an **international treaty banning first use**	**Not mentioned**	**Assumed to be included in the full doctrine**
Source: Author's analysis of both (National Security Advisory Board, 1999) and (Ministry of External Affairs, Government of India, 2003)		

From the comparisons above, it is clear that the 1999 Draft Report had certain commonalities, but the transition in many areas is rather noticeable. Due to the fact that the entire Indian Nuclear Doctrine has not been made public, the material provided in the 2003 Press Release is considered to reflect the contents of the Indian Nuclear Doctrine, and the balance is assumed to be consistent with the 1999 Draft Report. Thus, in the research study, the assessment of the Indian Nuclear Doctrine is based entirely on the 2003 Press Release, while the balance is based on assumed conjunctures from the 1999 Draft Report.

Key Elements of Indian Nuclear Doctrine

For this research, the three key elements of the Indian Nuclear Doctrine, are elaborately discussed in the following paragraphs.

- Credible Minimum Deterrence (CMD).
- Massive Retaliation (MR).
- No First Use (NFU).

Credible Minimum Deterrence (CMD)

“Credible” is defined as not only the quality and quantity of the arsenal but also the resolve and capacity to retaliate, as well as the survivability of assets. It is exhibiting a strong political will to carry out a massive nuclear retaliatory attack. "Minimum" refers to the quantity of surviving arsenal necessary to carry out massive retaliation inflicting unacceptable damage. Official announcements, on the other hand, have refrained from specifying the minimum necessary. Rather than that, the size and composition of the nuclear arsenal are determined by threat assessment and technological capability. The term "deterrence" refers to the process of preventing someone from doing something by instilling fear of the consequences. In the case of

India, this means that the country's capacity to react to a nuclear attack on it by either of its two nuclear neighbours must be credible to the potential adversary (Subrahmanyam, 2009).

The requirements for deterrence are as follows: a will to use nuclear forces and weapons; a robust command and control system; effective intelligence and early warning capabilities; sufficient, survivable, and operationally prepared forces; and comprehensive planning and training for operations (Nagal, 2014b).

The Indian Nuclear Doctrine is based on the concept of "minimal deterrence", which suggests that India's nuclear policy, strategy, and posture will be directed by this principle. The emphasis on "minimum deterrence" defines this principle precisely in terms of the capability sought, the size of the arsenal, the costs associated, the level of retaliation required, and the nuclear posture in times of peace and crisis and active threat. As stated, Sethi (2014a) reiterated as given in succeeding paragraphs that such a strategy must be based on three basic pillars: **capability**, **resolve**, and **communication**.

Capability. While "Credible Minimum Deterrence" **(**CMD) needs India to develop an arsenal large enough to inflict unacceptable damage, "No First Use" (NFU) requires India to develop it in such a way that it can withstand retaliation following a first strike. Thus, a certain amount of nuclear hardware is required for effective deterrence. This entails two distinct components: nuclear warheads and delivery vectors. India's triad has matured to ensure survivability and a counter-strike.

Resolve. The decision to use a nuclear weapon is a political one. Thus, for deterrence to be credible, it is critical to demonstrate political will through an organisational structure that reflects institutional decision-making. Periodic scenario building exercises and threat assessments are critical for equipping political leaders

with the necessary understanding of how to play the complicated game of nuclear deterrence.

Communication and Signalling. Indeed, communication is the primary pillar of deterrence's credibility. The capability build-up is pointless if the opponent is unaware of it, misreads it, or doubts the country's resolve to employ it. Therefore, it is vital to communicate a coherent and consistent message to the opponent so that he does not base his nuclear strategy on incorrect assumptions (Sethi, 2014a).

A Dynamic Concept. Nagal (2014) stated that the "Credible Minimum Deterrent" is a dynamic concept that adapts to emerging and established threats; it is not a minimum size as defined in western literature, but rather provides planners with the flexibility, space, and scope to adapt to the strategic environment and national security requirements, and we build our deterrent accordingly. With a policy of "No First Use' and "Massive Retaliation" in place today, the idea of "Credible Minimum Deterrent" (CMD) must account for "survivability and sufficient numbers" capable of inflicting unacceptable damage. The magnitude of the adversary's arsenal, technical advancements, forces, and protection are all aspects to consider when determining the deterrent's size, delivery method, and yield.

Massive Retaliation (MR)

The NSAB draft doctrine qualified retaliation as an "Assured Punitive" form, whereas the 2003 note from the Cabinet Committee on Security (CCS) altered this to "Massive Retaliation". Sethi (2014a) believed that using the term "massive" would deter Pakistan from considering the easy or early use of nuclear weapons, as India's response would be devastating.

However, Sethi (2014a) emphasised that the change in wording did not improve the deterrent's credibility, particularly because it was not accompanied by an expression of firm political resolve. Indeed, it should be noted that, even after amassing such a stockpile as the US did during the Cold War, the US abandoned massive retaliation as an unbelievable policy. It was deemed implausible and insufficient to discourage. The USA opted instead for the strategy of "Flexible Response".

However, India believes that a "Flexible Response" based on nuclear warfighting is not the answer. Indeed, the original nuclear doctrine's language of assured punitive retaliation without elaborating on the nature of retaliation in terms of magnitude was a wise alternative. Given India's "No First Use" (NFU) status, the message of the certainty of retaliation causing unacceptable damage is considerably more important than quantifying the response. After making this modification in 2003, it now appears difficult for India to return to the draft doctrine's language in the current political atmosphere. In this instance, the emphasis must be on strengthening India's expression of resolve, indicating that it would not hesitate to consider a counter-strike culminating in a disproportionate loss to the adversary (Sethi, 2014a).

The Posture of No First Use (NFU)

Those who viewed nuclear weapons as having a military purpose in actual combat naturally opted for "First Use" and "Pre-emptive" nuclear strategies and developed complex warfighting doctrines, while those who saw nuclear weapons as having no purpose other than deterrence adopted deterrence strategies, including no first use. Kanwal (2001) stated that the concept of "No First Use" follows logically from current conventional wisdom, which holds that the main purpose of nuclear weapons is to dissuade their use. India's "no first use" doctrine is a defensive doctrine that limits nuclear weapons use to retaliatory purposes. One could argue that a policy

of no first use works best under conditions of mutual deterrence. Kanwal (2001) also stated that India's “No-First-Use” doctrine, as ingrained in its strategic culture as it is, is not a hastily conceived policy aimed at getting acknowledgement from the international community for upsetting nuclear non-proliferation. It is a well-thought-out policy that took decades to establish, even if it was not adequately communicated publicly.

A commitment to refrain from “First Use” was not only a verbal or even negotiated guarantee; it can and must be seen reflected in a country's nuclear force structure, deployment patterns, the sorts of monitoring assets in place, and the state of preparedness of its nuclear weapons (Kanwal, 2001).

Since the May 1998 nuclear explosions and the Indian government's adoption of the doctrine, a serious discussion about “No First Use” and “Credible Minimum Deterrent”, of nuclear weapons had raged among India's strategic community. Numerous observers have argued that by opting for a solely retaliatory nuclear posture, India has gained nothing and has unnecessarily chosen to incur the horrific costs of a nuclear attack. After all, India's no-first-use doctrine is merely declarative, and if other nuclear countries refuse to accept India's offer of a negotiated no-first-use treaty, why should India expose itself to the ravages of nuclear war? (Kanwal, 2001).

Summary

India has deservedly been called a "reluctant nuclear power." No other country allowed a twenty-four-year gap between its first nuclear test and declaring itself a nuclear weapons state. Due to the deteriorating security situation, notably in the nuclear realm, it has been forced to perform a limited number of nuclear tests. India reaffirmed its commitment to being a responsible member of the global community.

In 1998, the National Security Advisory Board (NSAB) was tasked with the initial task of defining India's nuclear doctrine. On August 17, 1999, the National Security Advisor made public the draft report, "A Draft Report on Indian Nuclear Doctrine,". Since the National Security Advisory Board (NSAB) was an informal group of strategic specialists and analysts, the draft report was not a policy document of the Government of India. However, the draft statement lays out the broad principles for India's nuclear forces' development, deployment, and use. After three years of debate, the Government of India announced the operationalization of India's nuclear doctrine and disclosed limited information to the public through a press statement dated January 4, 2003. The 2003 press release summarises the Indian Nuclear Doctrine. While the 1999 Draft Report shared some characteristics with the final report, the transformation in many areas is quite obvious.

The Indian Nuclear Doctrine is understood through the text of the 2003 press release, but also through conjunctures from the 1999 Draft Report. The two variants differed in some ways, but both were retaliatory and infused with “Credible Minimum Deterrent” (CMD) and “No First Use” (NFU). The three major elements of “Credible Minimum Deterrent” (CMD), “Massive Retaliation” (MR), and “No First Use” (NFU) have been deliberated upon to help to gain a better understanding of the concepts, but detailed analysis in a regional context will be deliberated upon in subsequent chapters.

CHAPTER VII

NUCLEAR DOCTRINES OF PAKISTAN & CHINA AND IMPLICATIONS FOR INDIA

"You can change our friends but not neighbours."[11]

- Former Prime Minister of India, Shri Atal Bihari Vajpayee

Background

Southern Asia's nuclear environment is multipolar, with China and Pakistan adhering to diametrically opposed doctrines. Pakistan has a First Use policy, while China has a No First Use policy. Pakistan has not proclaimed a nuclear weapon policy, but China has made essential nuclear weapon policies public through White Papers. While their approaches to nuclear weapons policies are fundamentally different, both countries have a history of proliferation and pose shared security challenges to India.

Pakistan's Nuclear Doctrine & Implications for India

In Prime Minister Muhammed Nawaz Sharif's formal statement at a press conference following Pakistan's nuclear tests in Islamabad on May 28, 1998, he said "Under no circumstances would the Pakistani nation compromise on matters pertaining to its life and existence. Our decision to exercise the nuclear option has been taken in the interest of national self-defence. These weapons are to deter aggression, whether nuclear or conventional."[12]

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[11] News Nation Bureau. (2018, August 16). Atal Bihari Vajpayee top five quotes: â€˜You can change your friends but not neighboursâ€™. News Nation English. https://english.newsnationtv.com/india/news/atal-bihari-vajpayee-famous-quotes-you-can-change-your-friends-but-not-neighbours-200820.html

[12] Text of Prime Minister Muhammed Nawaz Sharif at a Press Conference on Pakistan Nuclear Tests, 'Islamabad, 28 May 1998.

The 1998 nuclear tests resulted in the formal incorporation of nuclear weapons into India's and Pakistan's military strategy. With a conventional advantage, India chose to retain a high moral position and adopted a No First Use (NFU) policy. Pakistan, as the weaker party in the Pakistan-India dyad, has not subscribed to an NFU policy and continues to view nuclear weapons as insurance against Indian conventional attack by threatening it with a nuclear response inflicting unacceptable damage—a variant of the Cold War's strategy of massive retaliation (Sultan, 2012).

The Evolution of Nuclear Weapon Policy in Pakistan

Chakma (2006) observed that Pakistan's concept of nuclear deterrence is India-specific, with the primary objective of deterring Indian conventional and nuclear aggression. Initially, Mr Zulfikar Ali Bhutto, who served in several roles before becoming Pakistan's president in December 1971, established a deterrent concept for Pakistan that remains relevant to this day and serves as a core tenet of Pakistan's nuclear use doctrine.

Following India's 1974 nuclear test, acquiring a nuclear weapon became a national imperative for Pakistan's political survival-a new source of "salvation" and a means of reclaiming lost immortality through nuclearism. From that point on, nuclear weapons became a matter of political religion for Pakistan's successive civil and military authorities (Sultan, 2012).

Nuclear Doctrinal Deliberations Post-1998

With the reactive nuclear tests on May 28 and 30, 1998, a new chapter in Pakistan's nuclear history began. This major achievement not only ended an era of purposeful nuclear ambiguity but also altered Pakistan's nuclear identity from opaque

to overt, a de facto nuclear weapons state. Chakma (2006) identified the following salient characteristics as proto-Pakistani nuclear doctrine:

- Indo-centric
- Minimum nuclear deterrence.
- The principle of massive retaliation
- First Use Policy
- Counter-value nuclear targeting
- Delegative nuclear command and control structure

Indo-Centricity. Pakistan's nuclear policy is essentially reactive against India, and its philosophy on nuclear use is unambiguously Indo-centric. Since the inception of the nuclear weapons programme in the early 1970s, Pakistani nuclear policy in general, and nuclear use planning in particular, has remained stable and is likely to remain so for the foreseeable future. Pakistan's nuclear posture intends to deter not only India's nuclear danger but also counter Indian conventional aggression, which Pakistan perceives as more pressing (Chakma, 2006). According to Pakistan, India's future danger to Pakistan would mostly be conventional, and Pakistan will not "hesitate" to use its nuclear weapons in response to an Indian conventional attack.

Minimum Nuclear Deterrence. Chakma (2006) explained that Pakistani political and military officials assert that minimum nuclear deterrence is a core aspect of Pakistan's nuclear posture. The Pakistani government's Defence Committee designated minimum nuclear deterrence as a critical and "indispensable" principle of Pakistan's security posture. As implied by such remarks, Pakistan would construct a limited but credible nuclear force to deter Indian aggression. There was also an attempt within Pakistan's establishment to assess Pakistan's minimal deterrent capability.

The Principle of Massive Retaliation. Pakistani officials and political and military leaders have made statements indicating that the country has embraced a policy of massive retaliation. Within hours of the nuclear tests on May 28, 1998, Islamabad warned New Delhi that an Indian strike would "warrant a swift and massive retaliation with unforeseen consequences." (UN Information Service, 1998). Chakma (2006) opined that Pakistani officials have frequently stated that massive retaliation is a central tenet of Pakistan's nuclear doctrine since then.

The Policy of First-Use. Chakma (2006) observed that in stark contrast to India, Pakistan has embraced a nuclear first-use strategy. Rejecting New Delhi's proposal for a Joint No First Use pledge immediately following the May 1998 nuclear tests, Pakistan's foreign secretary stated categorically that it was "unacceptable" to Islamabad and questioned whether any such arrangement had ever worked in the past anywhere in the world. In basic terms, Pakistan's doctrine indicates that it is not only prepared to retaliate with nuclear weapons, but also to take the initiative and employ nuclear weapons first to confront Indian conventional aggression.

Counter-Value Nuclear Targeting. A nuclear weapons state has essentially two alternatives when it comes to picking its nuclear targeting policy: either a counter-force policy that targets the adversary's military capabilities, or a counter-value one that prioritises large cities, population centres, and industries (Chakma, 2006). Pakistan has yet to publicly disclose its nuclear targeting policy; nonetheless, strategic factors, technical considerations, and the views of Pakistan's strategic community suggest that Pakistan has adopted or should adopt a mix of counter-force and counter-value targeting doctrines.

Delegative Command and Control System. Each nuclear-weapons state must establish a nuclear command and control system to ensure the effective

management of its nuclear forces. Chakma (2006) elaborated that depending on its strategic objectives, a state may implement either an "assertive" or a 'delegative' control system; the former emphasises avoiding unintended nuclear use by establishing a mechanism in which the decision to launch nuclear weapons is solely reserved for top political leaders, while the latter emphasises the certainty of desired nuclear use under 'defined circumstances' in which subordinate commanders are authorised to launch nuclear weapons.

Justification for the First Use Policy

Major Factors. Chakma (2006) identified three primary considerations for Pakistan's decision to take the position of “First Use”. (1) To begin with, a first-strike nuclear force is economically viable and easier to build. Because first-use doctrine calls for a limited nuclear arsenal, it is easier to manage once built, and its command and control structure is less complex than that of a second-strike nuclear force. This is also consistent with Pakistan's goal of minimum nuclear deterrence, another critical tenet of its nuclear doctrine. (2) Second, because India's conventional force significantly outweighs Pakistan's, a first-use strategy "evens out" this disparity. Pakistan's stance in this regard is reminiscent of NATO's policy of first use against conventionally superior Warsaw Pact troops in the European theatre during the Cold War. (3) Pakistan's structural vulnerabilities, such as a lack of geostrategic depth, the proximity of missile and air bases and storage facilities to international borders, and their proximity to the range of an Indian pre-emptive conventional strike, exacerbate Pakistan's military inferiority, reinforcing Pakistan's rationale for adopting a first-use policy.

First Use as the Constant. Pakistan has declined to proclaim a no-first-use policy from the inception of its nuclear programme; the government retains the option of using nuclear weapons first in the event of a war. This approach appears to have

stayed constant in light of India's growing conventional weapons asymmetry. Thus, by retaining the possibility of first use, Pakistan seeks to discourage any attack on its territory. Simultaneously, experts and security analysts in the country have recognised that a first-use option poses significant obstacles. It necessitates a high level of efficiency, competent military intelligence, and an extremely effective early warning system. However, given Pakistan's limited objectives—deterring conflict or preventing an enemy triumph, rather than winning a war—the existing capabilities should be adequate (Tasleem, 2016).

Ambiguities in Pakistan Nuclear Doctrine

Lack of a Public, Official Doctrine. Tasleem (2016) opined that Pakistan has not openly proclaimed an official nuclear use doctrine since May 1998, when it tested its nuclear devices. Pakistani officials claim that ambiguity is more advantageous for Pakistan's objectives, as it does not disclose information about Pakistan's nuclear thresholds, which an adversary would seek to exploit gaps in the plans. However, the absence of a public, official doctrine does not imply that no doctrine exists. A detailed examination of official comments, interviews, and developments concerning nuclear weapons reveals significant details regarding the outlines of Pakistan's practised doctrine.

Minimum Credible Deterrence or Full Spectrum Deterrence. Since Pakistan's inception, minimum credible deterrence has been a cornerstone of its doctrinal thought to satisfy this specific demand. However, conceptualising minimum deterrence as a "dynamic rather than static concept" implies the possibility of arms build-up. This misconception manifested itself initially through the deletion of the term "minimum" from credible minimum deterrence and later through the replacement of credible minimum with **full-spectrum deterrence** (Tasleem, 2016). However, in recent

years, official pronouncements have begun to combine credible minimum with full-spectrum deterrence.

Massive Retaliation for a Flexible Response. Tasleem (2016) observed that Pakistan looks to be steadily transitioning away from a posture of simple deterrence and massive retaliation toward one of **complex deterrence and flexible response**. The Nasr missiles are intended to deter India from initiating a proactive but limited military offensive against Pakistan. Additionally, the development of warheads with multiple independent re-entry vehicles (MIRVs) is being considered to bolster Pakistan's nuclear deterrence credibility in the face of India's prospective BMD. Pakistan has effectively lowered the threshold for nuclear use by introducing Nasr missiles in response to the threat posed by India's proactive military operations doctrine. Simultaneously, it has shifted away from massive retaliation toward a more flexible response.

The Shift in the Targeting Strategy. Tasleem (2016) observed that the introduction of Shaheen III, a longer-range ballistic missile aimed at the Andaman and Nicobar Islands, and Nasr, a short-range ballistic missile, may signal another shift in Pakistan's targeting strategy away from counter-value targets and toward a mix of counter-force and counter-value targets. However, it is unclear how this mix of targeting tactics might strengthen Pakistan's deterrence.

Redlines for Pakistan’s Nuclear First Use

Despite adopting a first-use doctrine, Pakistan has yet to specify the circumstances or "red lines" that will trigger Pakistan's nuclear first use. According to a retired Pakistani Air Force official, Pakistan may first use nuclear weapons in the following circumstances (Tasleem, 2016):

1. Penetration of Indian forces beyond a certain defined line or crossing of a river.

2. Imminent capture of an important Pakistani city like Lahore or Sialkot

3. The destruction of Pakistan's conventional armed forces or other assets beyond an unacceptable level

4. An attack on any of Pakistan's strategic targets, such as dams or nuclear installations,

5. The imposition of a blockade on Pakistan to an extent that it strangles the continued transportation of vital supplies and adversely affects the war-waging stamina of the country.

6. Indian crossing of the Line of Control to a level that threatens Pakistan's control over Pakistan Occupied Kashmir.

Perhaps the closest thing to an official statement on this subject is an interview given to a group of Italian researchers by Lt. Gen. Khalid Kidwai, Director General of the Strategic Plan Division of Pakistan's nuclear command structure (he later denied the interview was official), in which he stated that Islamabad would use nuclear weapons if necessary (Chakma,2006):

"1. India attacks Pakistan and conquers a large part of its territory.

2. India destroys a large section of its land and air forces.

3. India proceeds to the economic strangulation of Pakistan.

4. India pushes Pakistan into political destabilisation or creates largescale internal subversion, (Chakma, 2006).

Tracing Pakistan's nuclear use doctrine over the last two decades reveals that its position has remained steady on some subjects, been subject to the ongoing debate on others, and been constantly evolving on yet others. Additionally, it is critical to recognise that Pakistan's discourse on nuclear doctrine is far from complete. For example, critical topics such as escalation control and conflict termination are rarely discussed publicly in the context of doctrine and deterrence stability.

Implications of Pakistan's Nuclear Doctrine for India

Pakistan's development of the short-range surface-to-surface ballistic missile "NASR" (Hatf IX) has elicited a strong reaction from the West and neighbouring India. The new missile systems, which could be classified as tactical nuclear weapons (TNWs), may be intended to counter India's evolving warfighting concepts of Cold Start and Pro-Active operations, which appear to be aimed at exploring space for a limited number of objectives war while remaining below Pakistan's perceived nuclear threshold. NASR provides Pakistan with the deterrence value-added that is best represented by Thomas Schelling's term "rationality of irrationality[13]." (Sultan, 2012).

China's Nuclear Doctrine and Implications for India

The Beginning. China began developing nuclear weapons in the 1950s, with significant Soviet support. China began nuclear weapon research in 1953 under the pretence of peaceful usage of nuclear energy. When Sino-Soviet relations deteriorated in the late 1950s, the Soviet Union abrogated the agreement on defence technology transfer and stopped Soviet aid to China. China, on the other hand, had pledged to continue its nuclear weapons development. On October 16, 1964, China conducted its

[13] Schelling, T. C. (1981). The Strategy of Conflict: With a New Preface by the Author (Reprint ed.). Harvard University Press.

first nuclear test. China had conducted 45 nuclear tests since its first, the last being on July 29, 1996, when it signed the Comprehensive Test Ban Treaty (CTBT).

Chinese Nuclear Doctrine – Official Documents

China exploded its nuclear test device in 1964, thus becoming the world's fifth nuclear-weapon state. On the same day, the Chinese government announced that China would "***not be the first to use nuclear weapons at any time or under any circumstances***."[14] China continued to publish official nuclear policy documents since 1964 and are reproduced in the succeeding paragraphs.

Statement of the People's Republic of China, 16 Oct 1964 said *"The atom bomb is a paper tiger. This famous saying by Chairman Mao Tse-tung is known to all. This was our view in the past and this is still our view at present……. The Chinese Government hereby solemnly declares that* ***China will never at any time*** *and* ***under any circumstances be the first to use nuclear weapons."***[15]

The White Paper of 2006 was consistent with the earlier policies as *"Pursuing a* ***self-defensive nuclear strategy.*** *China's nuclear strategy is subject to the state's nuclear policy and military strategy. Its fundamental goal is to deter other countries from using or threatening to use nuclear weapons against China. China remains firmly committed to the* ***policy of no first use of nuclear weapons at any time and under any circumstances****. It unconditionally undertakes not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones and stands for the comprehensive prohibition and complete elimination of nuclear weapons. China upholds the* ***principles of counterattack*** *in self-defense and* ***limited development of***

[14] Statement by the People's Republic of China on October 16, 1964, "People's Daily, October 17, 1964."
[15] Statement of the People's Republic of China, October 16, 1964

nuclear weapons *and aims at building a lean and effective nuclear force capable of meeting national security needs. It endeavours to ensure the security and reliability of its nuclear weapons and* ***maintain a credible nuclear deterrent force****. China's nuclear force is under the direct command of the Central Military Commission (CMC). China exercises great restraint in developing its nuclear force. It has never entered into and will never enter into a nuclear arms race with any other country."* (Information Office of the State Council of the People's Republic of China, 2006).

The White Paper of 2008, though consistent with NFU, had variations in language and tenor as *"China remains* ***committed to the policy of no first use of nuclear weapons****, pursues a* ***self-defensive nuclear strategy****, and will never enter into a nuclear arms race with any other country……. ……The Second Artillery Force sticks to China's policy of no first use of nuclear weapons, implements a self-defensive nuclear strategy, strictly follows the orders of the CMC, and takes as its fundamental mission the protection of China from any nuclear attack. In peacetime, the nuclear missile weapons of the Second Artillery Force are not aimed at any country. But if China comes under a nuclear threat, the nuclear missile force of the Second Artillery Force* ***will go into a state of alert, and get ready for a nuclear counterattack*** *to deter the enemy from using nuclear weapons against China. If China comes under a nuclear attack, the nuclear missile force of the Second Artillery Force will use nuclear missiles to launch* ***a resolute counterattack*** *against the enemy, either independently or together with the nuclear forces of other services. The conventional missile force of the Second Artillery Force is charged mainly with the task of conducting* ***medium- and long-range precision strikes against key strategic and operational targets of the enemy"*** (Information Office of the State Council of the People's Republic of China, 2009).

China's Military Strategy of 2015 reads as follows: "*China's armed forces mainly shoulder the following strategic tasks:... to maintain strategic deterrence and carry out* ***nuclear counterattack****;"* (The State Council of the People's Republic of China, 2015). *"The nuclear force is a strategic cornerstone for safeguarding national sovereignty and security. China has always pursued the* ***policy of no first use*** *of nuclear weapons and adhered to a self-defensive nuclear strategy that is defensive in nature. China will unconditionally* ***not use or threaten to use nuclear weapons against non-nuclear-weapon states*** *or in nuclear-weapon-free zones and will never enter into a nuclear arms race with any other country. China has always kept its* ***nuclear capabilities at the minimum level*** *required to maintain its national security. China will optimize its nuclear force structure, improve strategic early warning, command and control, missile penetration, rapid reaction, and survivability and protection, and deter other countries from using or threatening to use nuclear weapons against China."* (The State Council of the People's Republic of China, 2015).

The most recent official document, **China's Military Strategy of 2019, China's National Defense in the New Era further emphasised that** *"China is always committed to a nuclear* ***policy of no first use*** *of nuclear weapons at any time and under any circumstances, and* ***not using or threatening to use nuclear weapons against non-nuclear-weapon states*** *or nuclear-weapon-free zones unconditionally. China advocates the ultimate, complete prohibition and thorough destruction of nuclear weapons. China does not engage in any nuclear arms race with any other country and keeps its* ***nuclear capabilities at the minimum level*** *required for national security. China pursues a nuclear strategy of self-defense, the goal of which is to maintain national strategic security by deterring other countries from using or threatening to use*

nuclear weapons against China" (The State Council of the People's Republic of China, 2019).

Thus, China's Nuclear Doctrine is characterised by its adherence to a self-defensive nuclear strategy that is defensive in nature:

- Policy of No First Use.
- Assured Nuclear Retaliation or Counter Attack.
- Not use or threaten to use nuclear weapons against non-nuclear-weapon states.
- Nuclear capabilities at the minimum level.

Understanding China's, No-First-Use (NFU) Nuclear Policy

Pan (2018) identified that China's no-first-use policy is based on three ideas. (1) It was deeply influenced by Mao Zedong's dialectical philosophical outlook on nuclear weapons, which dominated China's first generation of leadership from the new republic's founding. His claim that "the nuclear bomb is both a paper and a real tiger" shaped China's no-first-use policy. (2) It is an element of China's active defence policy. Since the new China's inception, it has successfully safeguarded its sovereignty and national security. In the event of an attack, China will undoubtedly counterattack. (3) It draws on China's 5,000-year-old war and national security wisdom. Sun Tzu taught us to use force with extreme caution. The Art of War states at the outset that "decision on war is a vital matter for the state, a way to survival or ruin," implying that the ultimate goal of a great strategy is not to win a war but to avoid one.

The Chinese government purposely chose strong expressions such as "at any time" and "under any circumstances" in its very first formal announcement on the no-

first-use nuclear policy to emphasise that this pledge is absolute, unconditional, and clear. Pan (2018) observed four implications of this fact.

1. The unconditional no-first-use policy means that nuclear weapons serve only one purpose in China's security calculus: to discourage other states from attacking China with nuclear weapons. China's commitment to no-first-use underscores the defensive nature of its nuclear policy.

2. China's unconditional no-first-use policy eliminates the necessity for it to compete with other nuclear weapon nations in an arms race. China must retain a survivable nuclear force capable of surviving the initial wave of nuclear attacks while also possessing a significant counterattack capability.

3. The unconditional no-first-use policy also means that nuclear development is not viewed as a mechanism for China's overall military planning to compensate for a lack of conventional capabilities.

4. China's absolute prohibition on first use demonstrates that it does not aim to use nuclear weapons as a foreign-policy tool to advance its national objectives.

The most convenient charge levelled against China's nuclear policy has been a lack of transparency. China is accused by some of concealing its genuine nuclear capability. Others take the claim to a strategic level, casting doubt on the viability of China's no-first-use commitment. (Pan, 2018).

Assured Nuclear Retaliation or Counterattack

China's nuclear strategy is likely best described by experts as one of "assured retaliation." The writings consistently depict only one envisioned the use of nuclear weapons in reaction to a nuclear attack: the nuclear counterattack operation. Rather than

pursuing parity with other nuclear-weapon states and the capability to wage counterforce campaigns, China believes it is sufficient to maintain a relatively small, secure, and survivable force. If China can absorb the first strike and react effectively, even with a few warheads, Beijing believes that an adversary will be unlikely to decide that the risk of attacking China is worth the advantage. According to authoritative literature on Chinese military thought, Chinese nuclear forces have three key purposes: (1) In peacetime, they attempt to prevent adversaries from starting a nuclear war against China. (2) During times of war, they serve to limit the scope of the conflict, preventing a conventional conflict from devolving into a nuclear exchange. (3) If a war does devolve into nuclear warfare, they are used to launch nuclear retaliation. (Brown, 2021).

Together, these formal commitments have formed the bedrock of China's nuclear strategy up to the present day. Western governments, on the other hand, have consistently cast aspersions on the pledge's trustworthiness. According to some, it is an empty pledge that is difficult to verify and difficult to believe, all the more so if China faces an acute, urgent security danger. (Pan, 2018).

China's Nuclear Ambiguity and its Implications for India

Components of Ambiguity. Bommakanti & Desai (2021) identified six components of China's nuclear ambiguity, which are (1) Conventional-nuclear entanglement in the People's Liberation Army Rocket Force (PLA RF). (2) Ambiguity related to China's No-First Use (NFU) nuclear doctrine (3) Newer capabilities, (4) Opacity pertaining to the number of nuclear warheads, (5) Probable change of posture to launch-on-warning (LOW), and (6) Possible development of tactical nuclear weapons.

Conventional-Nuclear Entanglement in PLA RF. By creating uncertainty and increasing nuclear escalation risks, conventional-nuclear entanglement in PLA RF aids a state in discouraging possible aggressors. At the same time, it increases the risk of an unintentional nuclear exchange as a result of erroneous assumptions. Inadvertent escalation and restricted nuclear use could result from miscalculations. When the following conditions are met in China, conventional-nuclear entanglement can be said to be in practice. (Bommakanti & Desai, 2021).

- Both nuclear and conventional systems are located in the same geographic area.
- The same organizations and command structures control both.
- Both are subject to similar employment practices.
- Both rely on similar delivery systems.

Ambiguity related to China's No-First Use (NFU) Nuclear Doctrine In a series of white papers published since 2006, China has reiterated its No-First-Use (NFU) stance. However, the 2008 defence white paper asserts that China's nuclear arsenal will not target any country during peacetime, but will place its forces on alert in the event of a nuclear attack on China. (Bommakanti & Desai, 2021). Additionally, some Chinese researchers have questioned the country's professed NFU policy, claiming that "China's adherence to unconditional no-first-use may embolden its adversaries, who may then attack and defeat China with their advanced conventional weapons." To avert such a predicament, these scholars propose that China's policy be changed to a conditional NFU. Meanwhile, other analysts have argued that China should abandon its NFU under two specific circumstances: (1) if imminent defeat in a conventional war threatens core interests, such as national survival; and (2) if nuclear

deterrence is deemed necessary to constrain the other party's actions against China's core targets, including its nuclear facilities, during a conventional conflict. (Bommakanti & Desai, 2021).

Ambiguity in the Structure and Composition of Chinese Nuclear Forces. China is allegedly surreptitiously building its armament through a vast underground network and its arsenal is substantially larger than what it admits. Thus, Chinese opacity increases the possibility of miscalculation and escalation, raising China's costs as the PLA RF's conventional and nuclear capabilities overlap. Additionally, it is likely to result in increased competition. (Bommakanti & Desai, 2021).

Challenges to China for Her No First Use Policy in the Future

The Questions and Debate. The following questions arise with China's "No First Use" policy: (1) Will China's "no first use" policy continues to be relevant and beneficial in an ever-changing security environment? (2) Should it be revised or abandoned entirely in light of the evolving security environment? (Pan, 2018). In general, two opposing perspectives on the no-first-use policy have evolved in China's domestic discussion, namely, renouncing nuclear weapons entirely and abandoning NFU in favour of a first-use strategy. (Pan, 2018).

Abandon Nuclear Weapons Altogether. This idea is primarily advanced by a small group of Chinese experts who argue that China should abandon not just its no-first-use policy but also nuclear weapons entirely to join the club of nuclear-free states. They contend that abandoning nuclear weapons would not only benefit China morally but would also serve China's security interests. This viewpoint was prevalent in the 1990s and early 2000s, and it is predicated on four arguments: (1) International attention has switched away from armed conflict and toward economic competition. (2)

Nuclear capacity is a waste of national security resources. (3) By unilaterally giving up nuclear weapons, China will set an illustrious example for other nuclear-weapon states. (4) This action will bolster China's image as a peace-loving nation even more (Pan, 2018).

Discard NFU in Favour of a First Use Strategy. It argues that the "no first use" policy has failed and should be abandoned in favour of a first-use strategy that will enable China to maintain a strategic vantage point in the inevitable future rivalry. This position is based primarily on the following arguments: (1) The no-first-use policy has had no effect on the US's efforts to isolate and restrict China. (2) China's security environment has not improved as a result of the no-first-use policy. China must take a cue from Russia and earn its legitimacy by becoming the first to use nuclear weapons. This is the only method to challenge US hegemony and protect China's sovereignty and fundamental rights. (3) The policy of no first use would place China in an extremely passive position in the event of a conflict with the US, such as one in the Taiwan Straits (Pan, 2018).

Consequences of Discarding the NFU Abandoning the no-first-use commitment would have dire ramifications in a variety of ways. (1) To begin with, it would contradict the nuclear security concept articulated by the new China's founding fathers, as well as the historical tendency. (2) Strategically, abandoning the no-first-use policy would imply a significant increase in China's nuclear weapons, unquestionably triggering a nuclear arms race with other nuclear powers. (3) Abandoning the no-first-use policy would jeopardise the international community's efforts at nuclear disarmament and non-proliferation (Pan, 2018).

Problems with the No First Use Policy. China's real difficulties with its no-first-use policy could be as follows: (1) China's new strategic objective of obtaining

world power status by the mid-twentieth century may imply a stronger role for its nuclear forces. (2) The future evolution of China-US relations may have a significant impact on the future fate of China's no-first-use policy. (3) China has begun to see a serious rift with non-nuclear-weapon states (Pan, 2018).

China's Nuclear Doctrine and its Implications for India

US Factor & Chinese Aggressive Stand. A critical criterion for assured retaliation is the arsenal's survivability following an adversary's initial strike, whether conventional or nuclear. China's difficulties are exacerbated by the United States' Conventional Prompt Global Strike (CPGS) system, which is capable of delivering a precision-guided conventional weapon anywhere in the world, as well as its Ballistic Missile Defense (BMD) capabilities. According to Chinese analysts, the US can act pre-emptively by using BMD as a shield and CPGS as a sword. This combination of the CPGS and BMD is arguably one of the primary reasons for China's ambitious efforts to modernise its nuclear arsenal and raise its nuclear ambiguity through conventional-nuclear entanglement. China also lacks appropriate early warning radars and satellite detection capabilities for ballistic missiles (Bommakanti & Desai, 2021).

A Conventional Attack on China's Nuclear Force. China's commitment to the NFU is lauded, but it is not absolute. Chinese strategists do assert that if China's nuclear forces are attacked with conventional weapons, retaliation using nuclear weapons is a possibility. This minor relaxation of the NFU is being contested more and more in light of the US pursuit of Conventional Prompt Global Strike (CPGS) and its integrated Ballistic Missile Defences (Bommakanti & Desai, 2021).

China's Nuclear Strike in Its Own Claimed Territories. India is sceptical about China's NFU pledge. China has weakened this approach in recent years by

emphasising that such a proclamation does not apply to Chinese-controlled territory. This category includes Taiwan as well as Arunachal Pradesh in India, which China continues to claim as its territory. The Chinese NFU promise is only applicable to Non-Proliferation Treaty (NPT) signatories and Nuclear Weapons Free Zone member nations (NWFZ). India is none of these (Bommakanti & Desai, 2021).

The Superior Nuclear Force of China. India faces the dual burden of a China with a greater nuclear arsenal than India and a China with qualitatively superior nuclear weapons capable of surviving the3 first strike and retaliating. Due to India's non-proliferation and assured retaliation policies, the survivability of its nuclear forces is critical (Bommakanti & Desai, 2021).

Nuclear Use in A Conventional Conflict. Bommakanti & Desai (2021) observed that Chinese nuclear strategists believe that two major themes best explain the evolution of China's nuclear strategy: "curb and end nuclear blackmail" and "maintain effective counter nuclear attack deterrence." Additionally, Chinese analysts have recommended that China should forsake “No First Use” (NFU) in the following hazardous scenarios: Chinese strategists have stated an interest in threatening nuclear use in a conventional conflict under certain circumstances through the operation known as "lowering the nuclear coercion threshold."

- China’s conventional forces are unable to defend against large-scale foreign aggression.
- If China’s nuclear assets are attacked with conventional arms.
- China’s core objectives face an "enormous threat" (Taiwan scenario), indicating an opponent’s intention to escalate to cross the nuclear threshold.

- Attacks with conventional weapons on high-value targets like the Three-Gorges Dam cause destruction comparable to or larger than a nuclear attack.

Summary

The nuclear environment in Southern Asia is multipolar, with China and Pakistan following starkly opposite philosophies. Both countries have a history of proliferation and present India with common security threats. Nuclear tests conducted in 1998 resulted in the formal inclusion of nuclear weapons in their military policy. Pakistan's nuclear policy is largely reactive toward India, and its nuclear doctrine is unequivocally Indo-centric. Pakistan's nuclear posture is designed to deter not only India's nuclear threat but also its conventional assault, which Pakistan views as more pressing.

Since 1998, Pakistan has not publicly declared an official nuclear use doctrine. In the event of a war, the government retains the option of launching nuclear weapons first. Pakistan developed the Nasr missiles in response to India's proactive military operations strategy. It is presumably meant to replace the credible minimum with full-spectrum deterrence. Pakistan appears to be shifting away from simple deterrence and massive retaliation toward complex deterrence and flexible response.

Numerous Chinese pronouncements imply that nuclear weapons also serve as a foundation for great-power status. According to the 2013 Science of Military Strategy, China's nuclear forces are critical to "ensuring China's continued status as a powerful country, ensuring that its core national interests are not violated, and fostering a secure environment for China's peaceful development." Xi Jinping echoed this point in December 2015 when he announced the establishment of the Rocket Force, stressing that "*the Rocket Force is our country's core strategic deterrent force; it is the strategic*

support for our country's major power status, and it is an important foundation for safeguarding our nation's security."

The main issue confronting India is the ambiguity surrounding China's "No First Use" policy and whether India falls under the policy's ambit. China's rising nuclear force, both in terms of quality and quantity, demonstrated the opaqueness of the "No First Use" policy.

CHAPTER VIII

EFFICACY OF "NO FIRST USE" POSTURE IN INDIAN NUCLEAR DOCTRINE

"Why a lot of people say that India has No First Use policy. Why should I bind myself to a… I should say I am a responsible nuclear power and I will not use it irresponsibly. This is my thinking."[16]

- Former Defence Minister of India, Shri Manohar Parrikar

Background

Indian nuclear strategy needs to consider a complex threat spectrum, which includes two dangerous enemies in Pakistan and China, with whom India has longstanding territorial conflicts. China and India are comparable in conventional capabilities but China has the edge in the nuclear domain. Whereas, Pakistan has adopted a 'first-use' nuclear policy of battlefield employment with ambiguous red lines. India has evolved a doctrine that was unique in its ability to face the whole range of nuclear and conventional threats that were existing during that period (Mitra, 2020).

But many argue that India's "retaliation only" strategy may no longer be an effective deterrent in light of recent advances in its rivals' nuclear capabilities. Moreover, with the changing threat scenario and drifting nuclear strategies of Pakistan and China, the Indian Nuclear Strategy may need to be revisited. The "No First Use"

[16] Singh, S. (2016, November 10). Manohar Parrikar questions India's no-first-use nuclear policy, adds 'my thinking.' The Indian Express. https://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/

(NFU) is accused of being a pacifist and idealist strategy that has no place in the modern world (Sethi, 2014b).

"First Use" and "No First Use" in the Conundrum of Nuclear Deterrence

The Armed Forces prefer to follow Standard Operating Procedures (SOPs) in both peace and war. This operational attitude predisposes forces to offensive doctrines with predetermined courses of action, denying the enemy the advantage of executing their moves. This may be a reasonable tactic with conventional weaponry, enhancing the likelihood of success. However, with the introduction of nuclear weapons, this equation becomes skewed (Sethi, 2014b). If both parties have nuclear capabilities, in the event of the first use of nuclear weapons in the form of a devastating first strike, the prospect of nuclear retaliation cannot be ruled out. Thus, the first user's estimate cannot be restricted to the damage it does, but must also account for the damage it will sustain as a result of the retaliation. As a result, even with an offensive nuclear strategy, neither victory nor the degree of devastation can be assumed. Is it then prudent to adopt a "First-Use" or "No First Use" posture for nuclear deterrence? (Sethi, 2014b). The important arguments for and against are given in the succeeding paragraphs.

"First Use" Posture

The nuances of the "First Use" nuclear strategy has various pros and cons which are explained as under (Sethi, 2014b):

- It is an offensive strategy, based on the understanding that nuclear weapons are for warfighting.
- It may deter both conventional (non-nuclear) and nuclear threats. They view non-nuclear are threats to national vital interests & survival.

- It may serve as a non-nuclear deterrent, but only if a non-nuclear threat to national survival exists or is believed to exist. Pakistan has always been concerned about India's overwhelming conventional military superiority over Pakistan.

- It necessitates large arsenals of first-strike weapons (such as precise missiles with multiple independently re-targetable vehicles), nuclear superiority to conduct counter-force attacks, and elaborate and delegated command and control structures to manage trigger readiness and coordinate simultaneous nuclear attacks from dispersed forces. None of this is easy.

- It is dangerous and destabilising; since it increases the likelihood of an accidental nuclear war as a result of an estimation error, while also significantly lowering the threshold for nuclear war in a crisis.

Rajagopalan (2019) commented that the US and Soviet Union's "First Use" doctrines made sense, as both were concerned about a surprise strike and maintained their nuclear forces ready to launch at the first sign of an enemy nuclear attack. The US had extended deterrent commitments to defend its allies against Soviet and Chinese strikes, which necessitated the ability to undertake an initial nuclear attack.

No First Use (NFU) Posture

The ingredients of the "No First Use" nuclear strategy have numerous nuances which are explained as under (Sethi, 2014b):

- The proponents of "No First Use" firmly believed that nuclear weapons are political tools and is not meant for warfighting.

- It is always a retaliatory strike to deter attacks by nuclear weapons i.e., it is a posture by a nuclear weapon state.

- A “No First Use” approach shifts the burden of escalation to the adversary.
- The nuclear force is not overextending the nuclear leash on a hair-trigger alert that is prone to mishap.
- There is no need to perfect the logistics of first use, which would be difficult given the coordination required to launch a nuclear attack with enough speed and surprise to strike the adversary's forces before they can launch or scatter.
- The political leadership is relieved of the psychological pressure of deciding when, and at what stage of the war, to use the weapon; a decision that is certain to weigh heavily on leadership due to the collateral damage caused.

Advantages of “No First Use” Policy in Indian Context

The advantages of the “No First Use” (NFU) policy in the Indian Context are always discussed in the backdrop to reflect India as a responsible nuclear state (Nagal, 2014):

- “No First Use” (NFU) is defensive in nature, reassuring the international community that India is not an aggressive nuclear state.
- With its “No First Use” (NFU) strategy, India will always maintain the moral high ground in its pursuit of nuclear disarmament and a world free of nuclear weapons.
- “No First Use” (NFU) is a smart policy for India against China as the weapon equation is extremely skewed. It may also be a plausible doctrine if Pakistan employing nuclear weapons has a limited arsenal and would cause

little damage, and the “No First Use” (NFU) state of India is capable of absorbing nuclear strikes and subsequently retaliating.

- The “No First Use” (NFU) doctrine prevents accidental nuclear exchanges, as weapons are not on hair-trigger alert. The “No First Use” (NFU) promotes greater safety and security by avoiding the deployment of nuclear weapons.

Disadvantages of No First Use Policy in Indian Context

The disadvantages of the NFU policy in the Indian Context require careful consideration as given below (Nagal, 2014):

- “No First Use” (NFU) implies the possibility of massive destruction in one's own country or limited strikes by the opponent on Indian forces operating within the adversary's territory.

- In India, the public is divided on the “No First Use” (NFU) policy. Allowing the enemy to defeat India on its own soil has been dubbed “the Panipat Syndrome” by some (Nagal, 2014).

- The nation has not been adequately informed about the devastation caused by nuclear war and is therefore psychologically unprepared to be annihilated.

- Fighting a war under constraints that jeopardise a country's future is also ethically reprehensible; no leader has the authority to endanger its populace without exhausting all other options and choosing “No First Use” (NFU).

- “No First Use” (NFU) policy cannot launch an initial strike on the adversary's counterforce targets, hence granting the adversary the entire

capability to attrite its own capability. With mobile systems on land and SSBNs at sea, the possibility of destroying opponent strategic assets in a second strike is also extremely low or zero; these confines own retaliatory nuclear strikes to counter-value targets, posing another moral challenge.

- The "No First Use" (NFU) doctrine necessitates the installation of a sophisticated and large missile defence system throughout the country. However, cost and technology will permit it at certain places, leaving the country vulnerable to a nuclear attack (Nagal, 2014).

The Strategic Logic

of "No First Use" Posture in Indian Nuclear Doctrine

India's No First Use policy evolved out of the lessons learnt by India's leading strategic thinkers over decades of deliberating on the worldwide experience with nuclear strategy and its implications for India's nuclear policy. It was governed not by passivity or idealism, but by a profound realism and an appreciation for the limited role that nuclear weapons can play in the policy of any nuclear-armed state (Rajagopalan, 2019).

Nuclear Weapons for Protection of National Survival

The prime motive for India's "No First Use" was the realization that nuclear weapons had a very limited purpose: protecting national survival. The only danger to such survival would be a nuclear attack. The only way to avoid such devastation is to threaten comparable devastation to any possible adversary, thus discouraging them from taking such action. Threatening retaliation is the only option, as these weapons are unstoppable. Though deterrence theorists in other areas of the world considered the possibility of using nuclear weapons for tactical goals other than national survival, the

majority of Indian nuclear strategists were understandably sceptical of such prospects. NFU emerges as a result of this strategic reasoning (Rajagopalan, 2019).

Retaliation is Central to Deterrence by Punishment

Of course, the prospect of retaliation is central to deterrence: stopping someone from acting by threatening to punish them if they do. By definition, retaliation can only be for an action that has already occurred, in this case, a nuclear attack. Deterrence and retaliation implied that there was no rationale for first using nuclear weapons: thus, there was no first use. India does not view any existential threats in the conventional realm, does not fear a surprise nuclear attack, and has no obligations to extended deterrence. There is no such strategic rationale for an Indian doctrine of first use of nuclear weapons (Rajagopalan, 2019).

Safer Political Control over Nuclear Weapons

Additionally, the benefits of the NFU include increased political control over nuclear weapons, considerably more flexible command and control structure, and a significantly safer nuclear arsenal (Rajagopalan, 2019).

Misconception - “No First Use” Restricts India's Options

There is a widespread misconception that “No First Use” restricts India's options. India's nuclear options are quite limited, but this is due to the nature of nuclear weapons and the context of India's strategic needs, not the “No First Use”. This becomes evident when we evaluate what India would gain in terms of nuclear options if it were not "bound" by the “No First Use”. Giving up the “No First Use” supposedly allows India to employ nuclear weapons first, but under what circumstances would India require nuclear weapons first? Any first use of nuclear weapons by India against another nuclear nation ensures nuclear retaliation. Nothing, however, can avert such a

reaction. And, given the nature of nuclear weapons, the repercussions of any retaliation, even if it is limited to a few nuclear weapons, will be catastrophic. Rajagopalan (2019) opines that this is one reason why nuclear first use makes sense only in the situation of countries facing certain death from conventional or nuclear threats.

The Logic of Counterforce – A Fiction

The logic of counterforce as part of "First Use" is also fiction. By attacking the adversary's nuclear forces rather than soft targets such as cities, we can prevent an adversary from attacking India with nuclear weapons. However, counterforce assaults require accurate intelligence regarding the location of the adversary's nuclear forces to target them. Even the world's most powerful nations lack such intelligence, and India will pay a high price if even a few of an adversary's weapons survive such an attack. Counterforce assaults may make sense in retaliation to an initial nuclear attack, to limit the damage that following waves of attacks can do. In such a circumstance, counterforce becomes a complement to, rather than a substitute for, the "No First Use". The difficulties associated with unreliable intelligence, along with the horrific repercussions of a mistake, also preclude any attempt to shave the "No First Use" to implement alternatives such as Launch-On-Warning or Launch Under-Attack. Rajagopalan (2019) states that apart from the extremely short reaction times, no political leader will order a nuclear attack based on the mere suspicion that an adversary is preparing for a nuclear attack.

Pakistan's Tactical Nuclear Weapons (TNWs)

Additionally, India is concerned about Pakistan's acquisition of Tactical Nuclear Weapons (TNWs) and its use of terrorism as a state policy. While one might understand the irritation, abandoning the "No First Use" will bring little relief. Both

terrorism and TNWs are an admission of Pakistan's conventional military vulnerability. Threatening to deploy Indian nuclear weapons first is so incomprehensible that it will lack credibility. Far more believable will be India's determination to employ conventional military dominance to counter such threats and reveal the hollowness of Pakistan's escalation threats (Rajagopalan, 2019).

Debate on India's Abandoning of No First Use Posture

India’s Capability Advancements and Counterforce Targeting

India is building a set of capabilities and making increasingly explicit pronouncements about pre-emption and counterforce that appear to contradict its claimed strategy of assured retaliation or minimum deterrence. India seeks to build a diverse and growing number of accurate and responsive nuclear delivery systems at higher states of readiness, an increasing array of surveillance platforms, and both indigenous and imported air and ballistic missile defences. These seemingly disparate capability developments are most likely the product of India's deliberate pursuit of more flexible choices beyond counter-value targeting, namely counterforce options against Pakistan's longer-range nuclear weapons. These advancements are indicative of India's early exploration and development of alternatives for attacking Pakistan's strategic nuclear systems in the event of a confrontation. India may be developing options toward Pakistan that would enable it to conduct hard nuclear counterforce targeting, thus giving India a limited capability to disarm Pakistan of strategic nuclear weapons. Regardless, India's nuclear strategy toward China would continue to be characterised by counter value-assured retaliation (Clary & Narang, 2018).

Counter to Pakistan's Tactical Nuclear Weapons

Clary & Narang (2018) thinks that a shift to nuclear counterforce options may be an attempt by India to break free from strategic paralysis caused by Pakistan's development of tactical nuclear weapons, which Pakistan has threatened to use against Indian conventional forces if they cross certain red lines or if Pakistan uses one or more tactical nuclear weapons against Indian forces.

The Legitimacy of Massive Retaliation

India's stated nuclear policy expressly warns of massive retaliation against any such usage, which is regarded as meaning a major counter value strike on Pakistani cities. Nonetheless, many have questioned the legitimacy of massive retaliation, questioning whether any Indian leader would command the deaths of millions of innocent Pakistani people in response to the use of nuclear weapons on Indian soldiers on Pakistani land. If India chooses not to use massive force in retaliation, it may attempt a proportional tit-for-tat response. However, such a response would cede the nuclear initiative to Pakistan, which, armed with long-range strategic nuclear weapons, may reply by destroying one or more Indian cities. Additionally, pursuing such graduated alternatives will significantly strain India's command and control infrastructure. Thus, some Indian strategists appear to be leaning toward a third option: **a hard counterforce strike against Pakistan's** comparatively few **strategic nuclear assets on land (and later at sea)** to degrade Pakistan's ability to destroy Indian strategic sites and cities. This is compatible with India's policy of massive retaliation. Massive retaliation measures do not have to be counter value, so avoiding the credibility concerns involved with a counter value targeting strategy in response to Pakistan's battlefield use of nuclear weapons (Clary & Narang, 2018).

Launch a Pre-emptive Counterforce Strike

One issue with the counterforce option is that fearful of a disarming strike, Pakistan would be tempted to unleash its whole arsenal first before losing it, which would prompt India to launch a pre-emptive counterforce strike. The argument is either that India's “No First Use” policy should be revised to allow for pre-emption or that pre-emptive usage in response to warnings of an anticipated Pakistani launch is consistent with India's current “No First Use” policy. If India views pre-emption as consistent with its “No First Use” policy and pre-emptive counterforce as a kind of massive retaliation, it may conclude that no overt revisions to its declaratory doctrine are required. As Shri Shivshankar Menon, India's former National Security Adviser has noted, “**India’s nuclear doctrine has far greater flexibility than it gets credit for**” (Shukla, 2017). In essence, India may take a pre-emptive stance rather than wait to be attacked with nuclear weapons.

The Scenario of TNW

According to conventional wargame scenarios, a nuclear crisis between India and Pakistan might be precipitated by a damaging Pakistan-sponsored terrorist strike in India. New Delhi would undertake military offensives against Pakistan to appease an outraged Indian population. Incapable of halting the Indian strike corps with conventional troops and facing defeat, Pakistani generals would authorise a "demonstration" nuclear strike against an Indian army column in Pakistani territory. The objective would be to inflict modest damage (10-45 destroyed tanks and 50–100 killed soldiers), to warn India to withdraw, and to compel Great Power intervention (Shukla, 2017). However, India's declared nuclear doctrine dictates that it will respond

to such a strike with a "massive" nuclear retaliation that causes "unacceptable damage" in Pakistan. According to the majority of strategists, this forces India to retaliate with full-strength nuclear weapons fired at various Pakistani cities in what are known as "counter-value attacks." This would result in millions of casualties but would leave much of Pakistan's nuclear arsenal intact, which is allegedly larger than India's. Naturally, Pakistan would retaliate with massive counter-value strikes against Indian cities, wreaking havoc on our densely populated cities. If Pakistan using tactical nuclear weapons against India, even against Indian soldiers inside Pakistan, it would effectively pave the way for a massive Indian first strike... India would hardly risk giving Pakistan the chance to carry out a massive nuclear strike after the Indian response to Pakistan using tactical nuclear weapons. In other words, Pakistan's use of tactical nuclear weapons effectively frees India to launch a comprehensive first strike against Pakistan. " In nuclear warfare parlance, a "comprehensive first strike" refers to a pre-emptive strike on the adversary's nuclear arsenal rather than cities to disarm it. It possesses the moral virtue of not threatening the killing of millions of innocent civilians and the strategic logic of disarming the adversary, thus increasing its credibility and accountability (Shukla, 2017).

The Shift from "No First Use" Policy to Posture of "Ambiguity"

India's "No First Use" policy has two options for review: "Ambiguity" or "First Use". The transition from "No First Use" to ambiguity will necessitate enhanced surveillance and monitoring systems, real-time intelligence, a high alert state for nuclear forces during crises/war, and an improved and speedier ready state during peace. A policy shift to "ambiguity" is plausible, given it embraces four possible outcomes, including the "No First Use". Among the benefits of "ambiguity" is discouraging a first strike against India. It precludes the initial destruction of the nation's

strategic forces; thus, the arsenal remains intact and ready for action. It expands the choices for decapacitating and/or disarming adversary leadership and arsenals and enables a proactive Confidence Building Measures policy. Ambiguity contains four distinct sub-options for initial use (Nagal, 2014).

- **Pre-emption**. Pre-emption allows the initiator the option of time, targets, and scale, and while it will pay the greatest returns in terms of national security, it is also the most destabilising if declared to the opponent.
- **Launch on Warning (LoW)**. The options for LoW offer the majority of first use advantages, except that they require a narrow window of opportunity for execution, astute political judgement, and assure the country's protection while inflicting harm on the adversary's leadership, arsenal, and strategic targets.
- **Launch on Launch (LoL)**. LoL is dependent on real-time surveillance and intelligence, operates within a highly narrow decision-making window of a few minutes, has a huge number of nuclear weapons on hair-trigger alert, and is destabilising.
- **No First Use**. A retaliatory strike may be counter value or counterforce.

"No First Use" and "Massive Retaliation" to Inflict "Unacceptable Damage"

Arguments in Favour of Massive Retaliation. The nation has placed its trust in political leadership, and that leadership is required to live up to that trust. If India vacillates on the issue or raises doubts about our commitment to the policy, we will send the wrong signals to its adversaries. Arguments in favour of massive retaliation include the following (Nagal, 2014):

- Prevent more damage to India's economic and population centres;

- Prevent future attacks on India's nuclear forces;
- Decapacitate adversary leadership to avert further nuclear exchanges.
- Avoid sudden escalation, since escalation control in nuclear exchanges is impossible due to the lack of rules governing nuclear war;
- Own command and control systems may be compromised in the event of a series of small-scale nuclear exchanges, rendering them incapable of responding; and
- The policy should result in a swift and orderly end to the war.

Arguments against Massive Retaliation. There is no universally accepted definition or interpretation of this term, but for the purposes of “No First Use”, let us assume that it refers to a large number of counter value targets and whatever counterforce targets are detected and identified during retaliation, resulting in the target nation's destruction. At times, reservations are expressed about Massive Retaliation's plan. There are several reasons to dispute its applicability (Nagal, 2014a).

- Gradual escalation/quid pro quo will prevent large scale nuclear damage and is a pragmatic option.
- The response to a few or one tactical nuclear weapon (TNW) should not be disproportionate, which could result in an all-out nuclear war.
- Escalation control should be practised in conventional and nuclear wars on moral and humanitarian considerations. However, escalation control depends on communication breakdown in war, the fog of war, desire for victory, and intelligence inaccuracy; and,

- The strategy is not rational; the political leadership may not show resolve during a crisis or at the time of decision.

Massive Retaliation to Stay with "No First Use" Posture. Thus, it is claimed that Massive Retaliation should remain in India's approach until its stated policy on "No First Use" changes. However, if and when its stated policy on "No First Use" changes, it would be prudent to evaluate "Massive Retaliation" for alternative choices, such as "decapitation strikes, disarming strikes, combo strikes, or all-out strikes" (Nagal, 2014a).

Inflict Unacceptable Damage. The retaliatory strikes must be so severe that recovery and reconstruction are protracted and costly, the populace must be incapacitated, the military must be defeated, and the political leadership responsible for the war must be annihilated. When retaliatory strikes are carried out, care must be taken to avoid environmental disasters; radioactive fallout damage will have an effect on both the country and the world. If the criteria of unacceptable damage are met, the "credible minimum" must be greater than the concept of "minimum deterrence" (Nagal, 2014b).

Summary

Many argue that India's "retaliation only" strategy may no longer be an effective deterrent given its rivals' recent nuclear developments. The "No First Use" is accused of having a pacifist approach that is out of date. However, a "No First Use" policy places the onus of escalation on the enemy. With its "No First Use" policy, India will always be on the moral high ground in its pursuit of nuclear disarmament.

India's "No First Use" policy stemmed from the understanding that nuclear weapons had only one purpose: to deter threats to national survival from adversary's

nuclear weapons. Increased political control over nuclear weapons, more flexible command and control, and a safer nuclear arsenal are all “No First Use” benefits.

“No First Use” (NFU) implies the possibility of massive destruction in one's own country, allowing the enemy to defeat India on its own soil. Fighting a war under constraints that jeopardise a country's future. Moreover, the “No First Use” (NFU) doctrine necessitates the installation of a sophisticated and large missile defence system throughout the country. Therefore, the “No First Use” policy has been debated for many years and strategists are contemplating a change to the “No First Use” posture. As long as the “No First Use” posture stays, the Massive Retaliation should continue to complement the “No First Use”.

CHAPTER IX

THE FINDINGS AND OUTCOME OF THE RESEARCH SURVEY

"India's nuclear doctrine has far greater flexibility than it gets credit for"[17]

- ***Former National Security Adviser of India, Shri Shivshankar Menon***

Background

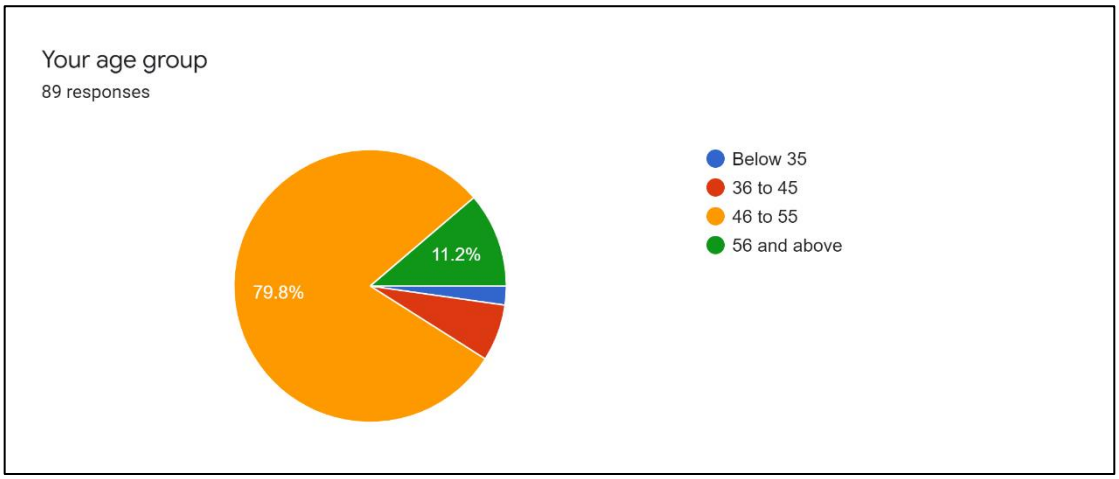
The research study revealed that the Indian Nuclear Doctrine was relevant to the geostrategic situation in the Indian context at the period of its promulgation. However, as the nuclear behaviour of Pakistan and China was changing, the officials of the Government of India and strategists indicated the need for revision of the existing doctrine. However, to assess the opinion of the strategic thinkers, institutions, and think tanks, an online research survey with a semi-structured questionnaire (refer to **Appendix 4)** and open-ended opinions was undertaken.

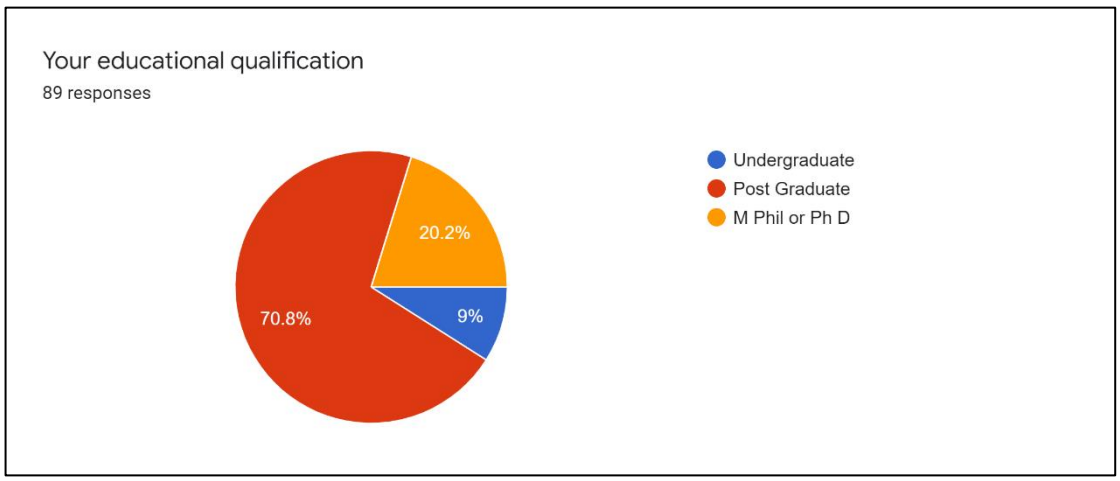
The Findings of the Research Survey

The Target Audience. The target audience was the persons who are engrossed in the study of strategic thinking and analysis of international and national policies. The majority was with an educational background of post-graduation, M Phil and PhD (91%), who are beyond the age group of 46 years. The audience also included strategic analysts (16.9 %), academicians (1.1%) and Research Scholars (7.9%). Many

[17] Clary, C., & Narang, V. (2018, Autumn). India's Counterforce Temptations, Strategic Dilemmas, Doctrine, and Capabilities. International Security, 43(3). https://www.belfercenter.org/publication/indias-counterforce-temptations-strategic-dilemmas-doctrine-and-capabilities

participants (25%) were a part of a department/university which analyses national and/or international policies and think tanks (10.1%).



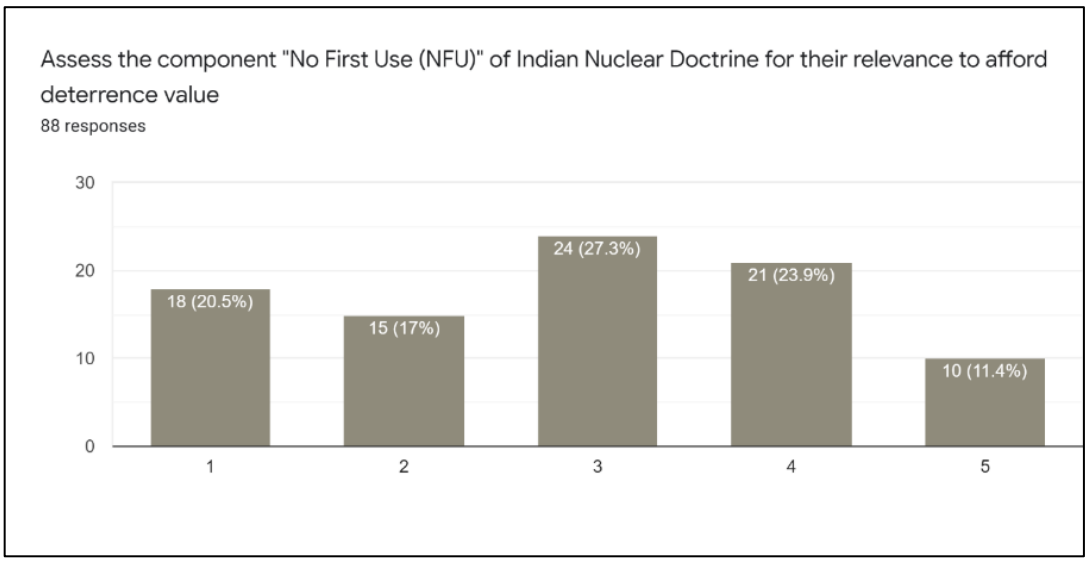


Limitations of the Research Survey. Since the nature of the study has national security implications, disclosures by primary sources were limited as well as with anonymity. A total of 89 responses were received, and the details are appended to the research paper as **Appendix 5**, and the essence is elucidated in the succeeding paragraphs.

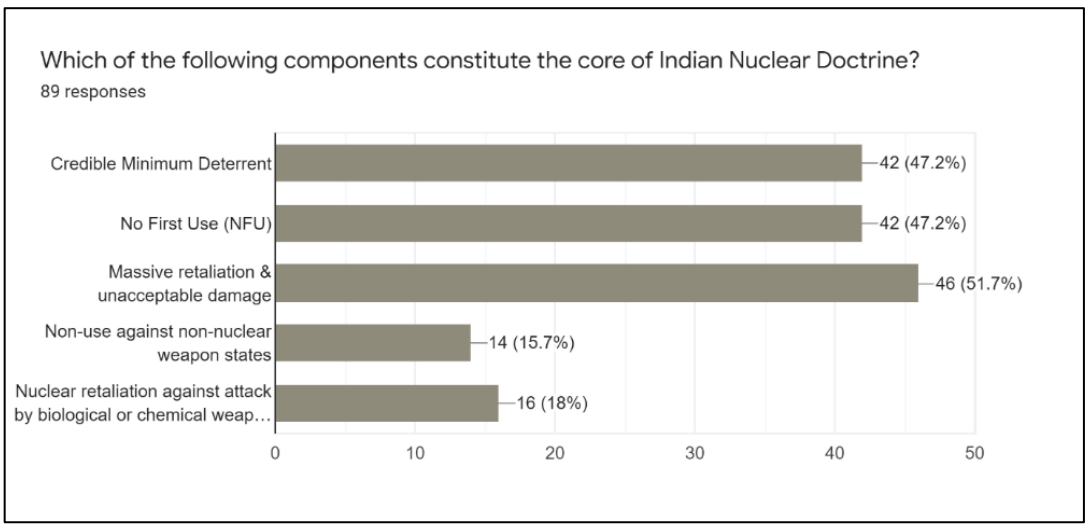
Deterrence Value of Indian Nuclear Doctrine. The questionnaire pointed to the audience if the Indian Nuclear Doctrine in the present form was providing

deterrence against Pakistan and China. Though against Pakistan 61 per cent agreed, whereas 53% was not fully satisfied against China.

Relevance of "No First Use" to Afford Deterrence Value. Though 33.3% of the responses endorsed that "No First Use" was relevant to afford deterrence value but more were inclined towards non-relevance of "No First Use" (NFU) to afford deterrence value (37.5%), with 27.3 % taking a neutral stand. So, it is inferred that majority was not in full agreement with "No First Use" in providing desired deterrence value.

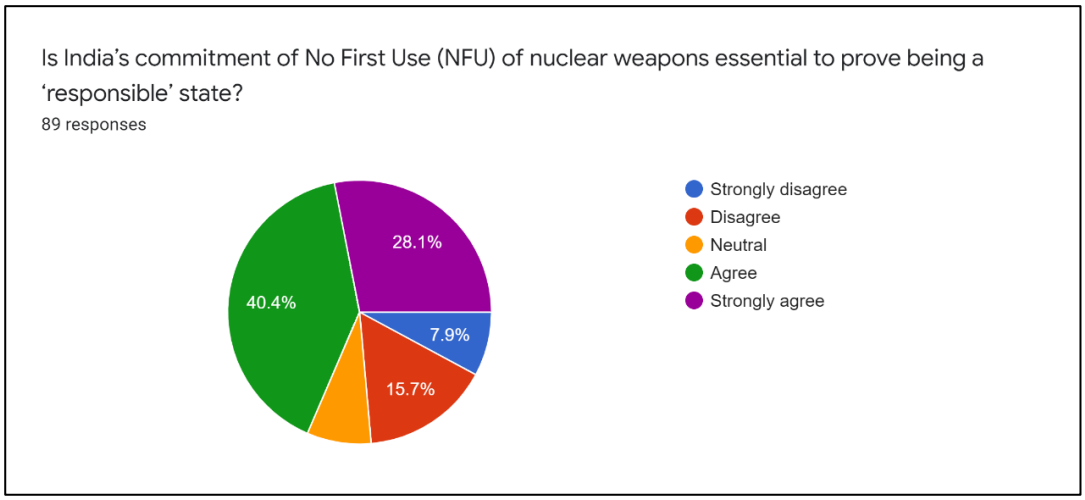


The Core of Indian Nuclear Doctrine. Though the majority (51.7%) felt that "Massive retaliation & unacceptable damage" was the core of Indian Nuclear

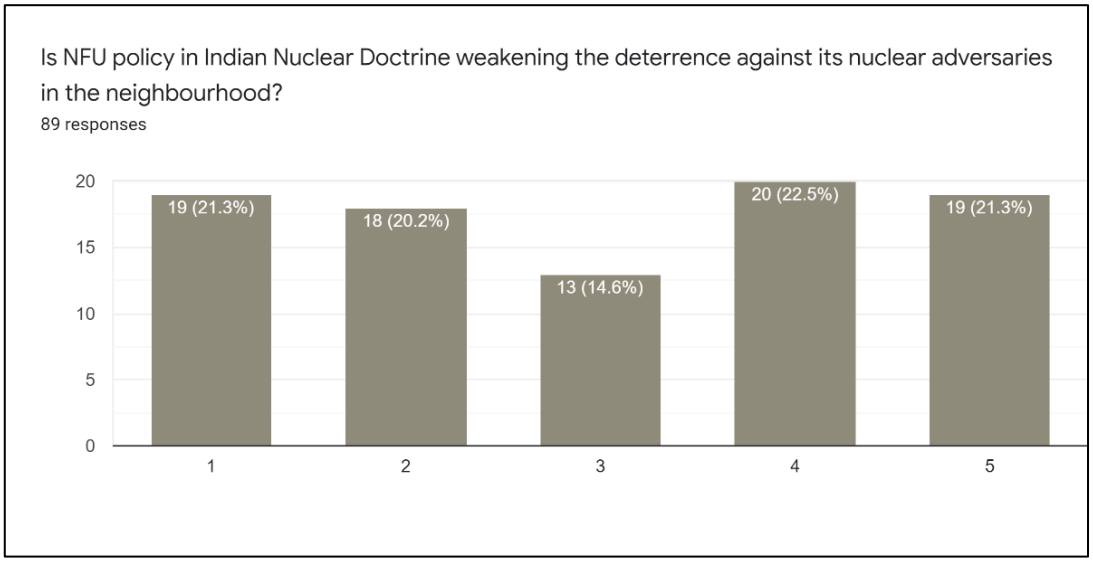


Doctrine, many (47.2%) agreed that "No First Use" (NFU) also contributed as the core of Indian Nuclear Doctrine.

"No First Use" and India as a "Responsible" Nuclear State. The majority (68.5%) assessed the "No First Use" (NFU) posture as essential to proving India as a responsible state. But, 23.6 % felt that India's commitment to "No First Use" (NFU) is not essential to prove to be a 'responsible' state.

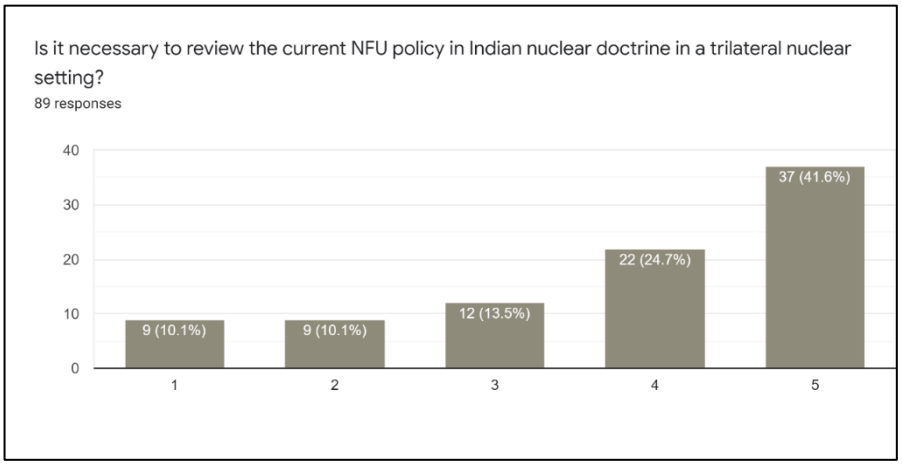


"No First Use" Posture Weakening Deterrence. A maximum of 43.8% of responders suggested that NFU is weakening the deterrence against nuclear neighbours with 14.6% taking a neutral stand. Therefore, the majority (58.4%) did not feel that

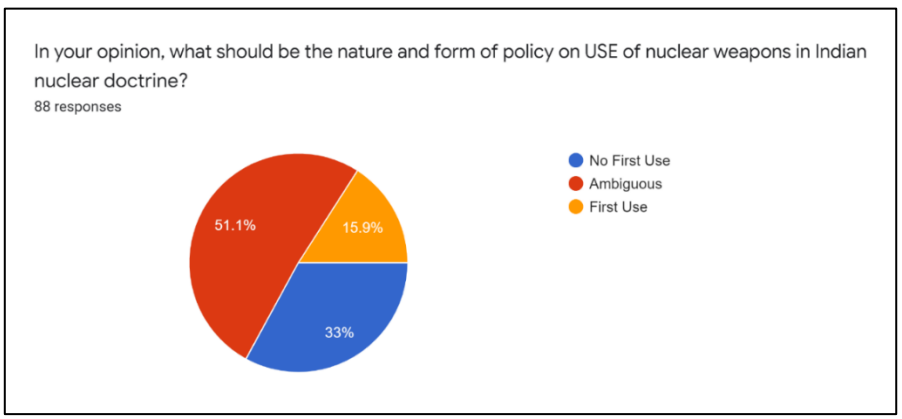


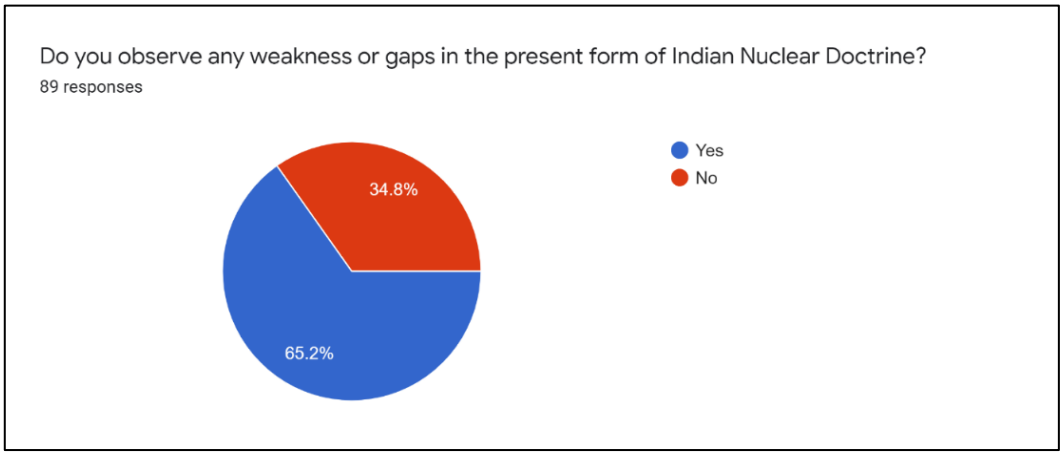
the “No First Use” policy is strengthening the deterrence value against its nuclear adversaries in the neighbourhood.

Review of “No First Use” Policy. The maximum responders (66.3%) opined that it is necessary to review the current “No First Use” (NFU) policy in Indian nuclear doctrine in a trilateral nuclear setting.



Nature and Form of Policy on the Use of Nuclear Weapons. Major responses (51%) suggested adopting "Ambiguous Use" of nuclear weapons, whereas 15.9% suggested "First Use". Therefore, the support for no change to the current NFU policy in Indian nuclear doctrine was a minority (33%). In addition, the majority has recommended the deletion (25.8%) or revision (39.3%) of NFU policy in the Indian nuclear doctrine. And, 65.2% of responders have observed weaknesses in Indian nuclear doctrine.





The Outcome of the Research Survey

The target audience of the research survey was a vibrant mix of strategic analysts, academicians and research scholars who analyse national and/or international policies. Therefore, the survey results are from a well-informed group of intellectuals.

The research survey is not fully endorsing the Indian Nuclear Doctrine in the present form for providing deterrence, especially against China. It is also inferred that majority was not in full agreement with "No First Use" in providing desired deterrence value against both the nuclear adversaries. However, most of the participants agreed that "No First Use" (NFU) contributed as the core of the Indian Nuclear Doctrine. Notwithstanding, it was felt that India's commitment to "No First Use" (NFU) is not essential to prove to be a 'responsible' nuclear state.

The majority do not feel that the "No First Use" policy is strengthening the deterrence value against its nuclear adversaries in the neighbourhood. The maximum responders opined that it is necessary to review the current "No First Use" (NFU) policy in Indian nuclear doctrine in a trilateral nuclear setting. The support for no change to

the current NFU policy in Indian nuclear doctrine was a minority. The majority has recommended the deletion or revision of NFU policy in the Indian nuclear doctrine. The major responses suggested adopting "Ambiguous Use" of nuclear weapons, whereas some suggested "First Use".

From the above research survey, it is inferred that the majority of respondents recommend revision of the "No First Use" policy in Indian nuclear doctrine in the form of "First Use" or "Ambiguous Use."

CHAPTER X

THE ANALYSIS AND RECOMMENDATIONS

"Pokhran is the area which witnessed Atalji's firm resolve to make India a nuclear power and yet remain firmly committed to the doctrine of NFU. India has strictly adhered to this doctrine. What happens in future depends on the circumstances"[18]

Defence Minister of India, Shri Rajnath Singh,

Background

The decades of the 80s and 90s witnessed the gradual deterioration of the regional security environment as a result of nuclear and missile proliferation. In the neighbourhood, nuclear weapons increased and more sophisticated delivery systems were inducted. Further, in the region, there has come into existence a pattern of clandestine acquisition of nuclear materials, missiles, and related technologies (Parliament of India Lok Sabha, 1998).

On October 16, 1964, China exploded its first-ever nuclear test device, and announced that China would "***not be the first to use nuclear weapons at any time or under any circumstances.***"[19] Whereas, Pakistan has been sabre-rattling on nuclear "***First Use***" since India's first nuclear test in 1974. Thereafter, India tested her nuclear

[18] Correspondent, S. (2019, August 16). 'No First Use' nuclear policy depends on circumstances: Rajnath Singh. The Hindu. https://www.thehindu.com/news/national/no-first-use-nuclear-policy-depends-on-circumstances-rajnath-singh/article29109149.ece

[19] Statement by the People's Republic of China on October 16, 1964, "People's Daily, October 17, 1964."

devices on May 11 and 13, 1998 and declared on May 27, 1998, that India "***shall not use these weapons to commit aggression or to mount threats against any country***" (Parliament of India Lok Sabha, 1998).

India adopted its Nuclear Doctrine in 2003, while Pakistan was inferior in the conventional domain, and China was growing in both conventional and nuclear domains. At present India faces a peculiar security environment with a complex threat spectrum from both Pakistan and China. In addition to the collusive threat from Pakistan and China, both the neighbours are changing their nuclear behaviour as well. With the new threat perception, it is imperative to revisit the Indian Nuclear Doctrine of 2003 to meet new challenges.

Regional Security Scenario Leading to the Indian Nuclear Doctrine

India and Pakistan: Security Paradigm

The spectrum of threats from Pakistan was spread across all dimensions of the warfare, as described below:

- **Conventional Misadventures**. Though inferior in conventional military balance to India, Pakistan had been exploring the opportunity to avenge past defeats through conventional misadventures.
- **Proxy War & Terrorism**. India became the victim of Pakistan aided and abetted proxy war and terrorism.
- **Nuclear First Use**. In stark contrast to India, Pakistan had embraced a nuclear "First-Use" strategy, even rejecting New Delhi's proposal for a joint "No First Use" pledge immediately following the May 1998 nuclear tests.

Indian Options against Threats from Pakistan

India had firmly believed that nuclear weapons are not for warfighting. Therefore, India had strengthened its conventional forces to counter Pakistan's conventional and proxy war threats. With a conventional advantage, India chose to retain a high moral position and had adopted a "No First Use" (NFU) policy.

India and China: Security Paradigm

Against the backdrop of the 1962 debacle, China tested its nuclear weapons in 1964 and immediately adopted the "No First Use Policy." Then, the Indo-China security scenario was:

- **Conventional Superiority**. Though India continued to invest in conventional capability development, China had enjoyed conventional superiority. China's superiority was supplemented by her infrastructural development along India's Northern Borders.
- **No First Use Policy.** Since 1964, China has remained firmly committed to the policy of "No First Use" of nuclear weapons at any time and under any circumstances.

Indian Options against Threats from China

In the conventional domain, India continued to strengthen its conventional forces, supported by infrastructural development along its Northern Borders. Since there was no ambiguity in the stated "No First Use" status of China, India's best option was to declare "No First Use" in the nuclear domain.

Instabilities in the Regional Security Threat Spectrum

Two Nuclear Adversaries

Southern Asia's nuclear environment is multipolar, with China and Pakistan adhering to diametrically opposed doctrines. Pakistan has a “First Use” policy, while China has a “No First Use” policy. Pakistan has not proclaimed a nuclear weapon policy, whereas China has made essential nuclear weapon policies public through its series of Defence White Papers. While their approaches to nuclear weapons policies are fundamentally different, both countries have a history of proliferation and pose collusive security challenges to India.

Irrational Pakistan

In May 2012, Pakistan developed a short-range surface-to-surface ballistic missile, "NASR" (Hatf IX), which could be classified as Tactical Nuclear Weapons (TNW). The NASR was intended to counter India's evolving warfighting concepts of Cold Start and Pro-Active operations. The use of Tactical Nuclear Weapons on the battlefield to deter conventional war would lower the nuclear threshold, compelling India to execute their stated “Massive Retaliation”. In addition, March 2015 witnessed the introduction of Shaheen III, a longer-range ballistic missile apparently aimed at the Andaman and Nicobar Islands. Both the NASR and Shaheen III nuclear-capable missile systems signalled a shift in Pakistan's targeting strategy away from counter-value targets and toward a mix of counter-force and counter-value targets.

By introducing Nasr missiles, Pakistan has effectively lowered the threshold for battlefield nuclear use with its declared red lines. Pakistan now combines a “credible minimum with full-spectrum deterrence”. Simultaneously, it has shifted away from “massive retaliation” toward a more “flexible response”.

Ambiguous China

In a dynamic security environment surrounding China, it has chosen to induce ambiguity in its nuclear strategy. The components of China's nuclear ambiguity are as given in the succeeding paragraphs.

Conventional-Nuclear Entanglement in PLA RF. Both nuclear and conventional systems are located in the same geographic area and controlled by the same organizations, which increases the risk of an unintentional nuclear exchange as a result of erroneous estimations.

Ambiguity in the "No-First Use" (NFU) Policy. China's NFU proclamation does not apply to Chinese-controlled territory. This category includes Taiwan as well as Arunachal Pradesh in India, which China continues to claim as its own territory (Bommakanti & Desai, 2021).

Newer Nuclear & Missile Capabilities. The quality and quantity of the nuclear arsenal, along with technological advancements, are indicative of a change in nuclear strategy. This could be a probable change of posture to Launch-on-Warning (LOW). Moreover, China is believed to have developed tactical nuclear weapons for battlefield employment on its own territory.

Indian Nuclear Doctrine in a Changed Regional Security Scenario

Doctrines are a function of threats, capabilities, and war objectives. Indian nuclear strategy accounts for a complicated threat spectrum that includes two rivals in Pakistan and China. In this changing security scenario, both "No First Use" and "Massive Retaliation" has been the subject of much analysis by strategists and experts (Mitra, 2020).

The thread of statements by officials and ex-officials of the Government of India are the testimonies of rethinking on the Indian Nuclear Doctrine of 2003. These statements are indicative of changes that have either happened or are likely to happen. There is a history of strategists, military leaders, and think tanks questioning, or calling for the revision of the NFU commitment.

The two defence ministers in the past have questioned the No-First Use. Shri Manohar Parrikar, then Defence Minister in 2016 said "Why a lot of people say that India has No First Use policy. Why should I bind myself to a… I should say I am a responsible nuclear power and I will not use it irresponsibly".[20] Shri Rajnath Singh, the present Defence Minister also said in 2019 that "Pokhran is the area which witnessed Atalji's firm resolve to make India a nuclear power and yet remain firmly committed to the doctrine of NFU. India has strictly adhered to this doctrine. What happens in future depends on the circumstances"[21]

India's former National Security Adviser Shivshankar Menon, who was closely involved in the nuclear affairs of India has recently stated that "India's nuclear doctrine has far greater flexibility than it gets credit for."[22]

The above statements indicate a shift in the Indian approach towards its nuclear strategy and the resolve to make amends.

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[20] Singh, S. (2016, November 10). Manohar Parrikar questions India's no-first-use nuclear policy, adds 'my thinking.' The Indian Express. https://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/

[21] Correspondent, S. (2019, August 16). 'No First Use' nuclear policy depends on circumstances: Rajnath Singh. The Hindu. https://www.thehindu.com/news/national/no-first-use-nuclear-policy-depends-on-circumstances-rajnath-singh/article29109149.ece

[22] Clary, C., & Narang, V. (2018, Autumn). India's Counterforce Temptations, Strategic Dilemmas, Doctrine, and Capabilities. International Security, 43(3). https://www.belfercenter.org/publication/indias-counterforce-temptations-strategic-dilemmas-doctrine-and-capabilities

An Analysis of Nuclear Scenario Building

Nuclear Scenario Building: India versus Pakistan

The current "No First Use" and "Massive Retaliation" postures of India were assessed in the background of the changing security dynamics with Pakistan. The nuclear matrix between India and Pakistan is likely to unfold as under:

Table 5

India – Pakistan Nuclear

Pak Strategy	**First Use and Full Spectrum Deterrence**					
Pak Targeting Options	CV + CF	CV	CF		BF	
India	**No First Use**					
Destruction to India	Civil population Partial Nuc Force	Civil population	Partial Nuc Force		Battlefield Destruction	
Indian Response as per IND	MR	MR	MR	MR	MR	
Indian Targeting Options	CV + CF	CV + CF	CV + CF	CF	CV + CF	CF
Probability of Success	CV – Fully CF – Partial	CV – Fully CF – Partial	CV – Fully CF – Partial	CF – Partial	CV – Fully CF – Partial	CF – Partial
Just Nuclear War	Justified	Justified	May not be just	Justified	May not be just	Partially just
Pak Nuclear Response	**Counter- Counter Strike (Survived Assets)**					
Outcome/Advantage	**India – Disadvantage**	**India – Disadvantage**	**India – Disadvantage**		**India – Advantage**	

Legend – CV – Countervalue, CF – Counterforce, BF – Battlefield, IND – Indian Nuclear Doctrine

Source – Author's appreciation

Pakistan, with its declared "First Use" policy, would exercise both counter value (CV) and counterforce (CF) targeting options. However, with the introduction of tactical nuclear weapons, Pakistan has an additional option to exercise first use on the battlefield (BF), i.e., to counter the Indian offensive, especially in its own territory.

In the first scenario, (refer to column 2 of Table 5) of counter value (CV) plus counterforce (CF) employment of nuclear weapons by Pakistan would cause devastating damage to the Indian civil population centres and partial destruction of Indian nuclear forces. Implementing "Massive Retaliation" by India would undertake fully successful counter value (CV) plus partial successful counterforce (CF) strikes, which is justifiable. Certainly, Pakistan would undertake a counter-counter strike with

its surviving nuclear assets. Constrained by “No First Use” the overall scenario is disadvantageous to India.

In the same analogy, the second option (refer to column 3 of Table 5) of Pakistan striking only counter value (CV) targets, India’s response with “Massive Retaliation” is justifiable. But again, constrained by “No First Use” the overall scenario is disadvantageous to India.

Similarly, in the third option, (refer to column 4 of Table 5) of Pakistan striking only counter value (CV) targets first, India has response options of both counter value plus counterforce (CV + CF) and only counterforce (CF) targets with “Massive Retaliation”. The case of “Massive Retaliation” on counterforce targets is fully justified. But once again, constrained by “No First Use” the overall scenario is disadvantageous to India.

Uniquely, in the fourth option, (refer to column 5 of Table 5) of Pakistan striking only battlefield (BF) targets (Indian troops in contact) with Tactical Nuclear Weapons (TNW) first, India has response options of both counter value plus counterforce (CV + CF) and only counterforce (CF) targets with “Massive Retaliation”. The case of “Massive Retaliation” on counterforce targets will be a partial success and the action would be fully justified. Since Pakistan’s nuclear force is partially crippled, their counter-counter strike may not be very effective. Hence, in such a situation, the overall scenario is advantageous to India.

In all the above scenarios, the irrational first nuclear strike by Pakistan will be immediately condemned by the international watchkeepers, and India may be pressured

not to retaliate with nuclear weapons, thus losing the credibility of its stated "Massive Retaliation" in the nuclear doctrine.

Drawing the same equivalence of battlefield employment, Pakistani chemical and biological weapons will also invite nuclear retaliation from India. Thus, India becomes the initiator of the nuclear war with Pakistan. The question would be, will the Indian leadership be able to take a hard decision to destroy a nation? Also, will India be able to justify the mutual nuclear annihilation of two countries to the international community?

Though constrained by "No First Use", the adherence to India's stated nuclear doctrine reserves the right to retaliate massively. In response to Pakistan's first use, including battlefield employment, the targeting options for India are to massively retaliate against counter value or counterforce or a combination of both. As per the norms of a just war, India is justified in its massive retaliation except in response to Pakistani employment on the battlefield. The counter-counter strike which will be executed by Pakistan with its surviving nuclear force would further cause destruction to India. So, the outcome of nuclear exchange within the constraints of "No First Use" disadvantages India, except in the case of retaliation against battlefield use.

In light of the above, the review of the no first use poster and related massive retaliation is justified against Pakistan to deter nuclear escalation through its irrational battlefield use as well as non-state actors.

Nuclear Scenario Building: India versus China

The ambiguity which has been set in China's "No First Use" posture, complemented by its technologically advanced nuclear forces, is likely to have the edge over India. The larger number of nuclear assets and delivery vectors of China are likely

to survive India's retaliatory strike. Therefore, China's counter-counter strike is likely to be devastating for India. Therefore, in all forms of targeting options, the overall effect is disadvantageous to India, as elucidated in the matrix in Table 6 below.

Table 6

India – China Nuclear Scenario

China's Strategy	**Ambiguous No First Use**					
China's Targeting Options	CV + CF	CV	CF		BF in Own Territory	
India	**No First Use**					
Destruction to India	Civil population Majority of Nuc Force	Civil population	Majority of Nuc Force		Battlefield Destruction	
Indian Response as per IND	MR	MR	MR	MR	MR	
Indian Targeting Options	CV + CF	CV + CF	CV + CF	CF	CV + CF	CF
Probability of Success	CV – Partial CF – Minimal	CV – Partial CF – Minimal	CV – Partial CF – Minimal	CF – Minimal	CV – Partial CF – Minimal	CF – Minimal
Just Nuclear War	Justified	Justified	May not be just	Justified	May not be just	Partially just
China's Nuclear Response	**Massive Counter- Counter Strike (Survived Assets)**					
Outcome/Advantage	**India Disadvantage**	**India Disadvantage**	**India Disadvantage**		**India Disadvantage**	

Legend – CV – Countervalue, CF – Counterforce, BF – Battlefield, IND – Indian Nuclear Doctrine

Source – Author's appreciation

India must avoid the trap of attempting to bolster its nuclear capabilities in response to the Chinese threat. India's nuclear weapons are already sufficient to deter China, as Indian missiles can strike key Chinese cities. India's estimated warhead capacity is around 150, or 46.87 per cent of China's 320. There is no evidence to suggest that China is not deterred by India's smaller nuclear arsenal (Basrur & ORF, 2020).

New age warfare spanning cyber and space is complicating both nuclear deterrence and limited conventional war. India needs to consider whether the "No First Use" policy is worth persisting within the context of new age warfare (Basrur & ORF, 2020).

Moreover, the long-range missiles of PLA RF may be successful in penetrating the Indian Missile Defence with its conventional warheads, thereby targeting Indian nuclear assets. Does Indian nuclear doctrine envisage such a situation? Will India resort to nuclear retaliation? To meet such a scenario, the reconsideration of "No First Use" is a better option against China.

The Options for Review of the Indian Nuclear Doctrine

The Policy of Use of Nuclear Weapons

The options that are available to India if the review is contemplated concerning the use of nuclear weapons are enumerated in the succeeding paragraphs.

1. **First Use.** A "**First Use**" posture would require a different set of capabilities that would put India on an arms race trajectory. The change over to first use provides India with the following strike capabilities:

- Pre-emptive strike "Launch
- on Warning.
- Launch on Launch.

2. **Unconditional No First Use.** The status quo of the current No First Use posture offers no conditions to the adversaries.

3. **Conditional No First Use**. The NFU may be abandoned under specific circumstances or conditions:

- If war threatens national survival or vital interests,
- If Indian nuclear assets are targeted.

4. **Ambiguous Use**. India can be deliberately ambiguous about precisely when, how, and on what scale it will use nuclear weapons.

- **Pre-emptive strike.**
- **Launch on Warning.**
- **Launch on Launch.**
- **No First Use.**

Decoupling of Indian Nuclear Doctrine for Pakistan and China

A decoupling of India's nuclear doctrine would result in a text specific to Pakistan and another specific to China. Even if this content is congruent, it leaves an interpretation space or uncertainty for India to exploit without officially weakening its commitment to “No First Use” in its nuclear doctrine (Mitra, 2020). It will also preclude the possibility of a collusive strike in a two-front war scenario.

Review of Massive Retaliation in Indian Nuclear Doctrine

The degree of retaliation is relevant to the postures of "No First Use" and "Ambiguous Use". **Escalation** control should be practised in conventional and nuclear wars on moral and humanitarian considerations. A gradual escalation/quid pro quo will prevent large scale nuclear damage and may be assumed to be a pragmatic option (Nagal, 2014a). The degree of retaliation may vary based on the intensity of punishment imposed on an adversary by deterrence. The choice to adopt a specific level or degree in the escalatory ladder depends on the belief of India as a nation.

Punitive Retaliation. The response to a few or one tactical nuclear weapon (TNW) should not be disproportionate, which could result in an all-out nuclear war. Hence, in hindsight wisdom, "punitive" retaliation, which was in the draft nuclear doctrine in 1999, was fully justified (Nagal, 2014a).

Massive Retaliation. There is no universally accepted definition or interpretation of this term. It refers to a large number of counter-value targets and whatever counterforce targets are detected and identified during retaliation, resulting in the target nation's destruction. The strategy is not rational; as the political leadership may not show resolve during a crisis or at the time of decision (Nagal, 2014a). India

wanted to preclude the option of nuclear use amongst its adversaries. Such a devastating and massive retaliation may not be acceptable in the new world order.

Flexible Response. Pakistan's first use doctrine and incorporation of tactical nuclear weapons into its force posture have led analysts to call for the substitution of the "massive retaliation" concept with a more "graduated" or "flexible" retaliation. Unlike the "massive" formulation, the flexible response is more permissive of first use by the adversary. Moreover, this formulation affords both counter-value and counter-force options, which may be necessary for retaliation (Mitra, 2020).

Scenarios - not Confirmed to have been Catered for in Indian Nuclear Doctrine

Threat to National Survival or Vital Interests. A catastrophic threat either from Pakistan or China to the survival of India as a nation or threatening vital national interests would demand a nuclear strike or retaliation.

Non-nuclear Targeting of Indian Nuclear Assets. A threat to Indian nuclear forces by non-nuclear means would deserve a nuclear response.

Nuclear Ploy by Sponsored Non-state Actors. It is well known to the international community that Pakistan sponsors non-state actors as a state policy. Therefore, any attributable attack on Indian Nuclear Assets may deserve a nuclear response against the sponsor country.

Collusive Nuclear Threat - Two Front Conflict Scenario. A two-front conventional conflict scenario may spiral into the collusive nuclear domain, which needs to be factored into Indian Nuclear Doctrine.

Recommendations for Review of the Indian Nuclear Doctrine

The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons by any state or entity against India and its forces. The prime motive for India's “No First Use” posture was the realization that nuclear weapons had a very limited purpose. The Indian Nuclear Doctrine also indicates that nuclear weapons do not figure in the nation’s calculus to counter conventional wars.

The Doctrinal Objectives

The doctrinal objectives which primarily should dominate the nuclear domain are (1) India's strategic interests require effective, credible nuclear deterrence and adequate retaliatory capability should deterrence fail (2) India shall pursue a doctrine of credible minimum nuclear deterrence (3) The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons. However, the objective **"to protect India’s vital interests or national survival (by non-nuclear means, i.e., conventional or cyber and space wars)"** is not included. Its incorporation would deter misadventures by Pakistan and China.

Indian Nuclear Doctrine as a “Living Document”

The regional security environment concerning India, China, and Pakistan is always dynamic and ever-changing. After India declared the Nuclear Doctrine in 2003, Pakistan has contemplated battlefield first use, whereas China is apparently drifting from its stated "No First Use" pledge. So, to match the evolving security scenario and changing threat spectrum, the **Indian Nuclear Doctrine, like a "living document",** needs to be periodically reviewed and communicated to adversaries.

Decoupling of Indian Nuclear Doctrine

India has a unique nuclear security challenge; wherein it has both “First Use” and “No First Use” adversaries who have a collusive interest against India. Pakistan has been irrational in lowering the threshold for battlefield use and may employ non-state actors to prosecute nuclear or WMD attacks against India. China, on the other hand, has a stated “No First Use” pledge but is fully capable of unleashing PLA RF on Indian nuclear assets. **Considering the dyad of nuclear threats, the decoupling of the Indian Nuclear Doctrine** against each adversary is recommended as under:

- **Pakistan: Ambiguous Use.**
- **China: – Conditional No First Use.**

Ambiguous Use against Pakistan

The posture of Ambiguous Use includes first use options such as (1) Pre-emptive strike (2) Launch on Warning (LOW) and (3) Launch on Launch (LOL). The ambiguity of nuclear use will encompass the No First Use (NFU) option as well. The deliberate ambiguity of use is justifiable against any nuclear state threatening to first use nuclear weapons against India and its forces. The text can be based on the UK model "**We are deliberately ambiguous about precisely when, how, and at what scale we would use our weapons" ….** against any state or entity that threatens to first use nuclear weapons against India and its forces.

Conditional No First Use against China

NFU policy reassures global powers that India is a responsible nuclear state and is not aggressive. An NFU policy is good for strategic stability, especially in a volatile regional security milieu. If both sides follow the policy of the NFU, there should be no arms race. If that is true, any crisis should not spiral out of control.

Confidence Building Measures (CBM) can be implemented better to reduce the chance of a nuclear exchange, with an NFU policy. The NFU ensures better safety and security since it avoids the deployment of nuclear weapons during peace. NFU aids in countering the criticism of ballistic missile defence (BMD). It helps indicate to adversary states that BMD efforts are for purely defensive purposes. As both countries have a declared NFU with reasonable second-strike capability, it is recommended to incorporate "**Conditional No First Use"** as:

> "The No First Use posture may be abandoned under specific circumstances: (1) If war threatens national survival or vital interests (2) If Indian nuclear assets are targeted."

Credible Minimum Deterrent

The Credible Minimum Deterrent is a dynamic and flexible concept that serves Indian planners' requirements even in the changing nuclear scenario, hence no change is recommended.

Massive Retaliation to **Inflict Unacceptable Damage**

A massive retaliation strategy is not rational, and such a devastating massive retaliation to cause the annihilation of a large civil population may not be acceptable in the new world order. Moreover, international pressure may preclude India from massive retaliation. Therefore, a **Flexible response,** unlike the "massive" formulation, is more permissive and acceptable. Moreover, **flexible response** affords both counter-value and counter-force options as may be necessary for retaliation.

Major Attack by Biological or Chemical Weapons

India will retain the option of retaliating with nuclear weapons in the event of a major attack by biological or chemical weapons against India, or Indian forces

anywhere. However, the massive nuclear retaliation used to inflict unacceptable damage may not be acceptable to the international community. With this declaration, the scope of use has expanded to nuclear attacks. This will also create a dilemma if non-state actors are involved in the attacks. Therefore, the proposed **flexible response** would deter the use of **biological or chemical weapons against India** and, if adopted, would accord credibility to this stated caution.

Two Front War – Escalating to Nuclear Dimension

China's relationship with Pakistan is based on a truly compelling strategic purpose. China's investment in the China-Pakistan Economic Corridor (CPEC), which passes through disputed territory in Pakistan-occupied Kashmir's Gilgit-Baltistan area, binds China and Pakistan together in defending a common security interest. Transfers of military weapons and joint combat exercises between China and Pakistan in recent years have also enabled military interoperability between the two countries. Thus, a two-front scenario is possible if India is at odds with Pakistan and China intervenes, as it sought to do in 1965. China's strategic support force is capable of intervening in cyberspace, outer space, and the electronic realms.

India's existing nuclear doctrine is incompatible with this scenario due to its adherence to exclusively predictable circumstances. If a two-front scenario occurs today, the Indian nuclear doctrine in its current shape is unable to provide or communicate the necessary nuclear deterrence or the form of nuclear confrontation.

India maintains the core nature of its nuclear philosophy while decoupling it from two congruent versions. A fragmentation of India's nuclear doctrine would result in a document unique to Pakistan and another specific to China.

Communication and Signalling the Resolve

It is a political decision to use a nuclear weapon. Thus, it is important to establish political intent through an organisational structure that represents institutional decision-making for deterrence to be credible. Periodic scenario development exercises and threat assessments are crucial for arming political leaders with the necessary awareness of how to play the complex game of nuclear deterrence. Indeed, communication is the foundation upon which the credibility of deterrence is built. The capability development effort is futile if the adversary is ignorant of it, misreads it, or doubts the country's determination to utilise it. Therefore, it is recommended to provide a coherent and consistent message to the adversaries for them to avoid basing their own nuclear strategy on incorrect assumptions.

Conclusion

India is confronted with several dangers today, spanning two insecure frontiers. On the one hand, there is Pakistan, which is emboldened by China's unwavering support. Pakistan continues to fight proxy wars because it feels it has developed nuclear deterrence to the point where India's conventional choices are limited by Pakistan's full spectrum deterrent nuclear policy. China has taken an aggressive position on the LAC, abrogating all conventions, understandings, norms, and agreements with India and engaging in unprecedented levels of violence. China continues to develop its capabilities to establish a strong deterrent and gradually abandon its proclaimed policy of No First Use. India is confronted with the difficulty of countering divergent doctrines on its western and northern borders; Pakistan has a First Use strategy, while China has a "No First Use" policy.

Keeping these complexities in mind, India's nuclear doctrine must be reviewed regularly to ensure that it remains relevant to emerging security/threat scenarios. The term "review" should not be construed to mean that each review will result in a modification to the doctrine's fundamentals, but rather will serve to contextualise the doctrine towards the current and evolving security scenarios.

The recommended transformation of the Indian Nuclear Doctrine would be **to decouple** it to deter both disparate nuclear strategies and their collusive threat, by incorporating "**Ambiguous Use" into a "flexible response" to counter the irrationality of Pakistan** and adopting a "**Conditional No First Use**" to deter China’s drifting No First Use pledge and any threat to India’s vital interests or survival.

References

Ahmed, A. (2009). Reviewing India's Nuclear Doctrine. *Strategic Analysis, Institute for Defence Studies and Analyses*.

Arbatov, A. (2019, March 22). *Nuclear Deterrence: A Guarantee or Threat to Strategic Stability?* Carnegie Moscow Centre. Retrieved September 12, 2021, from https://carnegiemoscow.org/2019/03/22/nuclear-deterrence-guarantee-or-threat-to-strategic-stability-pub-78663

Arms Control. (2022, January). *Nuclear Weapons: Who Has What at a Glance | Arms Control Association*. Retrieved March 13, 2022, from https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat

Basrur, R. & ORF. (2020). The India-China Nuclear Dynamic: India's Options. *ORF Issue Brief, 430*. https://www.orfonline.org/research/india-china-nuclear-dynamic-india-options/#:~:text=%20The%20India-China%20Nuclear%20Dynamic%3A%20India%E2%80%99s%20Options%20,number%20of%20complexities.%20First%2C%20the%20Ladakh. . .%20More%20

Bommakanti, K., & Desai, S. (2021). China's Nuclear Ambiguity and its Implications for India. *Occasional Papers, Observer Research Foundation, 309*. https://www.orfonline.org/research/chinas-nuclear-ambiguity-and-its-implications-for-india/

Brown, G. C. (2021, June). *Understanding the Risks and Realities of China's Nuclear Forces | Arms Control Association*. Arms Control Association. Retrieved July 4, 2021, from https://www.armscontrol.org/act/2021-06/features/understanding-risks-realities-chinas-nuclear-forces

Chakma, B. (2006). Pakistan's Nuclear Doctrine and Command and Control System: Dilemmas of Small Nuclear Forces in the Second Atomic Age. *Security Challenges, 2*(2). https://www.jstor.org/stable/pdf/26459035.pdf?refreqid=excelsior%3Af64f3a4c1b435ec42669adff7b0820f5&ab_segments=&origin=

Chandra, S. (2014). Revisiting India's Nuclear Doctrine: Is It Necessary? *Strategic Analysis, Institute for Defence Studies and Analyses*. https://www.idsa.in/issuebrief/RevisitingIndiasNuclearDoctrine_schandra_300414

Chari, P. R. (2000). *India's Nuclear Doctrine : Confused Ambitions*. The Non Proliferation Review. Retrieved 2021, from https://www.nonproliferation.org/wp-content/uploads/npr/73chari.pdf

Chengappa, R. (2000a). *Weapons of Peace: Secret Story of India's Quest to Be a Nuclear Power* (1st ed.). Harpercollins Pub India Pvt Ltd.

Chengappa, R. (2000b). *Weapons of Peace: Secret Story of India's Quest to Be a Nuclear Power* (1st ed.). Harpercollins Pub India Pvt Ltd.

Clary, C., & Narang, V. (2018, Autumn). India's Counterforce Temptations, Strategic Dilemmas, Doctrine, and Capabilities. *International Security, 43*(3). https://www.belfercenter.org/publication/indias-counterforce-temptations-strategic-dilemmas-doctrine-and-capabilities

Correspondent, S. (2019, August 16). 'No First Use' nuclear policy depends on circumstances: Rajnath Singh. *The Hindu*. https://www.thehindu.com/news/national/no-first-use-nuclear-policy-depends-on-circumstances-rajnath-singh/article29109149.ece

FAS. (2022). *Status of World Nuclear Forces*. Federation Of American Scientists. Retrieved March 13, 2022, from https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/

Freedman, L. (2003). *The Evolution of Nuclear Strategy*. Palgrave Macmillan. https://link.springer.com/content/pdf/bfm%3A978-0-230-37943-5%2F1.pdf

Government of India. (1998). *India Nuclear Tests 11 & 13 May 1998 - Statements by India*. Acronym. Retrieved January 25, 2022, from http://www.acronym.org.uk/old/archive/spind.htm

Government of India, Department of Atomic Energy. (2009, September 24). *Press Statement by Dr. Anil Kakodkar and Dr. R. Chidambaram on Pokhran-II tests*. Press Information Bureau. Retrieved December 12, 2021, from https://pib.gov.in/newsite/PrintRelease.aspx?relid=52814

Indian Embassy USA. (1998, May 17). *Joint press statement by DAE and DRDO*. Retrieved January 25, 2022, from https://indianembassyusa.gov.in/ArchivesDetails?id=222

Information Office of the State Council of the People's Republic of China. (2006, December). *China's National Defense in 2006*. En.People.Cn. Retrieved December 2021, from http://en.people.cn/whitepaper/defense2006/defense2006.html

Information Office of the State Council of the People's Republic of China. (2009, January 20). *China's National Defense in 2008*. China.Org.Cn. Retrieved December 12, 2021, from http://www.china.org.cn/government/whitepaper/node_7060059.htm

Ingram, P. (2019). Discussion Paper: Nuclear Doctrine. *Nuclear Threat Initiative*. https://media.nti.org/documents/Discussion_Paper-Nuclear_Doctrine.pdf

Joshi, S. (2015, May). *India's Nuclear Anxieties: The Debate Over Doctrine | Arms Control Association*. Armscontrol. Retrieved January 5, 2022, from https://www.armscontrol.org/act/2015-05/features/india%E2%80%99s-nuclear-anxieties-debate-over-doctrine

Kanwal, G. (2001). India's Nuclear Doctrine and Policy. *Strategic Analysis, IDSA*, *11*. https://ciaotest.cc.columbia.edu/olj/sa/sa_feb01kag01.html

Kanwal, G. (2018). *Sharpening the Arsenal: India's Evolving Nuclear Deterrence Policy* (1st ed.). HarperCollins.

Karnad, B. (2002). *Nuclear Weapons and Indian Security: The Realist Foundattions of Strategy*. Macmillan India Limited.

Karnad, B. (2008). *India's Nuclear Policy (Praeger Security International)*. Praeger.

Kuniyil, R. (2017, July). *Nuclear Deterrence in Trilateral Setting : Strategies of India, Pakistan and China*. Mahatma Gandhi University Created and maintained by INFLIBNET Centre. http://hdl.handle.net/10603/229695

Li, N. (2018, January 12). *China's Evolving Nuclear Strategy: Will China Drop "No First Use?"* Jamestown. Retrieved September 21, 2021, from https://jamestown.org/program/chinas-evolving-nuclear-strategy-will-china-drop-no-first-use/

Lo, J. (2003). Nuclear Deterrence in South Asia: Theory and Practice. *International Journal*, *58*(3). https://doi.org/10.2307/40203865

Mazarr, M. J. & RAND. (2018). *Understanding Deterrence*. RAND Corporation. Retrieved August 2021, from https://www.rand.org/pubs/perspectives/PE295.html

Menon, P. (2018). *The Strategy Trap : India and Pakistan under the Nuclear Shadow*. Wisdom Tree.

Ministry of External Affairs, Government of India. (1999, August 17). *Draft Report of National Security Advisory Board on Indian Nuclear Doctrine*. Ministry of Externa Affairs (MEA). Retrieved January 25, 2022, from https://mea.gov.in/in-focus-article.htm?18916/draft+report+of+national+security+advisory+board+on+indian+nuclear+doctrine#disarnment

Ministry of External Affairs, Government of India. (2003, January 4). *The Cabinet Committee on Security Reviews operationalization of India's Nuclear Doctrine*. MEA. Retrieved November 28, 2021, from https://mea.gov.in/press-releases.htm?dtl/20131/the+cabinet+committee+on+security+reviews+perationalization+of+indias+nuclear+doctrine

Ministry of External Affairs, Government of India. (2006, April 26). *Statement by Official Spokesperson*. MEA. Retrieved January 26, 2022, from https://www.mea.gov.in/media-briefings.htm?dtl/3468/statement+by+official+spokesperson

Mitra, J. (2020). Beyond Current Nuclear Doctrine Debates: Addressing India's Two-Front Challenge. *ORF Issue Brief, 394*. https://www.orfonline.org/wp-content/uploads/2020/08/ORF_IssueBrief_394_NuclearDoctrine_Final-New.pdf

Morgan, P. M. (2003). *Deterrence Now (Cambridge Studies in International Relations) by Patrick M. Morgan (2003–06-16)*. Cambridge University Press.

Nagal, B. S. (2014a, June). *Guest Column | Checks and Balances* -. Forceindia.Net. Retrieved August 2021, from https://forceindia.net/guest-column/guest-column-b-s-nagal/checks-and-balances/

Nagal, B. S. (2014b, October). *Guest Column | Perception and Reality* -. Forceindia.Net. Retrieved September 9, 2021, from https://forceindia.net/guest-column/guest-column-b-s-nagal/perception-and-reality/

Nagal, B. S. (2014c, December). *Guest Column | Nuclear No First Use Policy* -. Forceindia.Net. Retrieved September 12, 2021, from https://forceindia.net/guest-column/guest-column-b-s-nagal/nuclear-no-first-use-policy/

Narang, V. (2014a). *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict (Princeton Studies in International History and Politics, 143)*. Princeton University Press.

Narang, V. (2014b). *[Nuclear Strategy in the Modern Era: Regional Powers and International Conflict (Princeton Studies in International History and Politics)] [Author: Narang, Vipin] [May, 2014]*. Princeton University Press.

National Security Advisory Board. (1999, August 17). *Draft Report of National Security Advisory Board on Indian Nuclear Doctrine*. Ministry of External Affairs, Government of India. Retrieved November 12, 2021, from https://mea.gov.in/in-focus-article.htm?18916/draft+report+of+national+security+advisory+board+on+indian+nuclear+doctrine#disarnment

News Nation Bureau. (2018, August 16). *Atal Bihari Vajpayee top five quotes: â€˜You can change your friends but not neighboursâ€<sup>TM</i>*. News Nation English. https://english.newsnationtv.com/india/news/atal-bihari-vajpayee-famous-quotes-you-can-change-your-friends-but-not-neighbours-200820.html

Nuclear Threat Initiative. (2010, December). *India Nuclear Chronology*. NTI. https://media.nti.org/pdfs/india_nuclear.pdf

Nuclear Threat Initiative. (2021, October 5). *India Nuclear Overview*. The Nuclear Threat Initiative. Retrieved January 23, 2022, from https://www.nti.org/analysis/articles/india-nuclear/

Office of the Secretary of Defense. (2018, February). *2018 Nuclear Posture Review Final Report*. Department of Defense, USA. Retrieved September 12, 2021, from https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF

Oliker, O. (2020, June 4). *New Document Consolidates Russia's Nuclear Policy in One Place | Russia Matters*. Russia Matters. Retrieved January 12, 2022, from https://www.russiamatters.org/analysis/new-document-consolidates-russias-nuclear-policy-one-place

Pan, Z. (2018). A Study of China's No-First-Use Policy on Nuclear Weapons. *Journal for Peace and Nuclear Disarmament, 1*(1), 115–136. https://doi.org/10.1080/25751654.2018.1458415

Panda, A. (2018, July 17). *'No First Use' and Nuclear Weapons*. Council on Foreign Relations. Retrieved December 2021, from https://www.cfr.org/backgrounder/no-first-use-and-nuclear-weapons

Parliament of India Lok Sabha. (1998, May). *Evolution of India's Nuclear Policy*. Lok Sabha, Parliament of India. http://loksabhaph.nic.in/Debates/Result12.aspx?dbsl=249

Quackenbush, S. L. (2016, May 2). *Modern Deterrence Theory*. Oxford Handbooks Online. Retrieved August 21, 2021, from https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199935307.001.0001/oxfordhb-9780199935307-e-39

Rajagopalan, R. (2016). India's Nuclear Doctrine Debate. *Carnegie Endowment for International Peace*. https://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950

Rajagopalan, R. (2019). The strategic logic of the No First Use nuclear doctrine. *Observers Research Foundation*. https://www.orfonline.org/expert-speak/strategic-logic-no-first-use-nuclear-doctrine-54911/

Rajagopalan, R. (2021, November 10). *India and Counterforce: A Question of Evidence*. ORF. Retrieved January 8, 2022, from https://www.orfonline.org/research/india-and-counterforce-a-question-of-evidence-66126/

Rajagopalan, R. & IDSA. (1990). *Nuclear Strategy and Small Nuclear Forces: The Conceptual Components*. IDSA. http://www.idsa-india.org/an-oct9-5.html

Rani, A. (2013, January). *Nuclear policy of India a study of security perspective*. https://shodhganga.inflibnet.ac.in/jspui/. http://hdl.handle.net/10603/6561

Reif, K. & Arms Control Association. (2021, September). *Biden Administration Begins Nuclear Posture Review | Arms Control Association*. Arms Control. Retrieved December 12, 2021, from https://www.armscontrol.org/act/2021-09/news/biden-administration-begins-nuclear-posture-review

Schelling, T. C. (1981). *The Strategy of Conflict: With a New Preface by the Author* (Reprint ed.). Harvard University Press.

Sethi, M. (2014a). Counter-Strike: India's Nuclear Strategy. *Airpower Journal*, *9*(4). http://capsindia.org.managewebsiteportal.com/files/documents/APJ-Oct-Dec-2014-inside.pdf

Sethi, M. (2014b). India and No First Use: Preventing Deterrence Breakdown. *Institute of Peace and Conflict Studies*. http://www.ipcs.org/comm_select.php?articleNo=4393

Sethi, M. (2014c, April 21). *India and No First Use: Preventing Deterrence Breakdown | IPCS*. Institute of Peace and Conflict Studies. Retrieved July 10, 2021, from http://www.ipcs.org/comm_select.php?articleNo=4393

Sethi, M. (2018). US NPR and India's Nuclear Doctrine. *Expert View, Centre for Air Power Studies*. https://capsindia.org/us-npr-and-indias-nuclear-doctrine/

Sethi, M. (2020). Global Nuclear Developments 2017–2020: Implications for India's Nuclear Policy. *National Security, Vivekananda International Foundation*. https://www.vifindia.org/sites/default/files/national-security-vol-3-issue-2-article-MSethi.pdf

Shukla, A. (2017, April 10). *Shivshankar Menon's book causes stir over India's nuclear weapons doctrine*. Broadsword by Ajai Shukla - Strategy. Economics. Stuff. Retrieved January 12, 2022, from https://www.ajaishukla.com/2017/04/shivshankar-menons-book-causes-stir.html

Singh, J. (1999). India's nuclear policy: The year after. *Strategic Analysis*, *23*(4), 509–530. https://doi.org/10.1080/09700169908455065

Singh, S. (2016, November 10). Manohar Parrikar questions India's no-first-use nuclear policy, adds 'my thinking.' *The Indian Express*. https://indianexpress.com/article/india/india-news-india/manohar-parrikar-questions-no-first-use-nuclear-policy-adds-my-thinking-4369062/

Singh, S. (2019a). India's Nuclear Doctrine and Debate of No First Use Policy. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3450297

Singh, S. (2019b). India's Nuclear Doctrine and Debate of No First Use Policy. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3450297

Singh, Z. D. (2017). Is India's Nuclear Doctrine Credible? *Journal of Defence Studies, 11*(1). https://www.idsa.in/jds/jds_11_1_2017_is-india-nuclear-doctrine-credible

SIPRI. (2021, June 14). *Global nuclear arsenals grow as states continue to modernize–New SIPRI Yearbook out now | SIPRI*. Retrieved March 13, 2022, from https://sipri.org/media/press-release/2021/global-nuclear-arsenals-grow-states-continue-modernize-new-sipri-yearbook-out-now

Subrahmanyam, K. (2003, January 27). *Triple Deterrent*. Ministry of External Affairs, Government of India. Retrieved November 28, 2021, from https://mea.gov.in/articles-in-indian-media.htm?dtl/14633/triple+deterrent

Subrahmanyam, K. (2004). Narasimha Rao and the Bomb. *Strategic Analysis, 28*(4). https://idsa.in/system/files/strategicanalysis_ksub_1204.pdf

Subrahmanyam, K. (2009, September 15). Thinking through the unthinkable. *Indian Express*. http://archive.indianexpress.com/story-print/517179/

Sultan, A. (2012). Pakistan's emerging nuclear posture: impact of drivers and technology on nuclear doctrine. *Strategic Studies*. https://issi.org.pk/wp-content/uploads/2014/06/1340000409_86108059.pdf

Tasleem, S. (2016, June 30). *Pakistan's Nuclear Use Doctrine*. Carnegie Endowment for International Peace. Retrieved February 3, 2022, from https://carnegieendowment.org/2016/06/30/pakistan-s-nuclear-use-doctrine-pub-63913

Tertrais, B. (2020, February). *French Nuclear Deterrence Policy, Forces, And Future: A Handbook*. Fondation Pour La Recherche Stratégique. Retrieved December 2021, from https://www.frstrategie.org/sites/default/files/documents/publications/recherches-et-documents/2020/202004.pdf

The Department of Atomic Energy. (2008). The Architects of Atomic Energy Programme in India. *Nuclear*, *43*(5–6). http://www.dae.gov.in

The Economic Times. (2009, August 28). *India needs to be a nuclear weapon state: Kalam*. Retrieved December 2021, from https://economictimes.indiatimes.com/news/politics-and-nation/india-needs-to-be-a-nuclear-weapon-state-kalam/articleshow/4946436.cms?from=mdr

The State Council of the People's Republic of China. (2015, May 27). *China's Military Strategy (full text)*. Retrieved July 4, 2021, from http://english.www.gov.cn/archive/white_paper/2015/05/27/content_281475115610833.htm

The State Council of the People's Republic of China. (2019, July 24). *Full Text: China's National Defense in the New Era*. Retrieved July 4, 2021, from https://english.www.gov.cn/archive/whitepaper/201907/24/content_WS5d3941ddc6d08408f502283d.html

Times of India. (2018, August 16). *Atal Bihari Vajpayee Quotes: Motivational and inspirations quotes by 10th Prime Minister of India - Times of India*. The Times of India. https://timesofindia.indiatimes.com/life-style/events/atal-bihari-vajpayee-quotes-motivational-and-inspirations-quotes-by-10th-prime-minister-of-india/articleshow/65424304.cms

Tiwari, M. (2018, August 17). *The story of Pokhran: Tests that established India as nuclear power, became cornerstone of Atal Bihari Vajpayee's tenure as PM*. The Financial Express. https://www.financialexpress.com/india-news/the-story-of-pokhran-tests-that-established-india-as-nuclear-power-became-cornerstone-of-atal-bihari-vajpayees-tenure-as-pm/1283660/

The UK's nuclear deterrent: what you need to know. (2022, February 17). GOV.UK. https://www.gov.uk/government/publications/uk-nuclear-deterrence-factsheet/uk-nuclear-deterrence-what-you-need-to-know#:%7E:text=The%20UK's%20nuclear%20deterrent%20is%20operationally%20independent.,defence%20of%20our%20NATO%20allies.

UN Information Service. (1998, May 29). *Pakistan Warns in Disarmament Conference of Massive Retaliation if Nuclear Installations Attacked*. United Nations. Retrieved December 2021, from https://www.un.org/press/en/1998/19980529.dcf335.html

Woolf, A. F. & Congressional Research Service. (2021, October 13). *U.S. Nuclear Weapons Policy: Considering "No First Use."* FAS. Retrieved January 10, 2022, from https://sgp.fas.org/crs/nuke/IN10553.pdf

Appendix 1 - Evolution of India's Nuclear Policy

Twelfth Lok Sabha

Session: 2
Date: 27-05-1998

Participants: Vajpayee Shri Atal Bihari

Title: Shri Atal Bihari Vajpayee, The Prime Minister of India, laid a paper entitled "Evolution of India's Nuclear Policy".

Shri Atal Bihari Vajpayee**:**

1. On 11 May, a statement was issued by Government announcing that India had successfully carried out three underground nuclear tests at the Pokhran range. Two days later, after carrying out two more underground sub-kiloton tests, the Government announced the completion of the planned series of tests. The three underground nuclear tests carried out at 1545 hours on 11 May were with three different devices - a fission device, a low-yield sub-kiloton device and a thermonuclear device. The two tests carried out at 1221 hours on 13 May were also low-yield devices in the sub-kiloton range. The results from these tests have been in accordance with the expectations of our scientists.

2. In 1947, when India emerged as a free country to take its rightful place in the comity of nations, the nuclear age had already dawned. Our leaders then took the crucial decision to opt for self-reliance, and freedom of thought and action. We rejected the Cold War paradigm whose shadows were already appearing on the horizon and instead of aligning ourselves with either bloc, chose the more difficult path of nonalignment. This has required the building up of national strength through our own resources, our skills and creativity and the dedication of the people. Among the earliest initiatives taken by our first Prime Minister Pt. Jawaharlal Nehru, was the development of science and inculcation of the scientific spirit. It is this initiative that laid the foundation for the achievement of 11 and 13 May, made possible by exemplary cooperation among the scientists from Department of Atomic energy and Defence

Research & Development Organisation. Disarmament was then and continues to be a major plank in our foreign policy now. It was, in essence, and remains still, the natural course for a country that had waged a unique struggle for independence on the basis of 'ahimsa' and 'Satyagraha'.

* Also placed in Library See No. LT 173/98)

3. Development of nuclear technology transformed the nature of global security. Our leaders reasoned that nuclear weapons were not weapons of war, these were weapons of mass destruction. A nuclear-weapon-free world would, therefore, enhance not only India's security but also the security of all nations. This is the principle plank of our nuclear policy. In the absence of universal and non-discriminatory disarmament, we cannot accept a regime that creates an arbitrary division between nuclear haves and have-nots. India believes that it is the sovereign right of every nation to make a judgement regarding its supreme national interests and exercise its sovereign choice. We subscribe to the principle of equal and legitimate security interests of nations and consider it a sovereign right. At the same time, our leaders recognised early that nuclear technology offers tremendous potential for economic development, especially for developing countries who are endeavouring to leap across the technology gaps created by long years of colonial exploitation. This thinking was reflected in the enactment of the Atomic Energy Act of 1948, within a year of our independence. All the numerous initiatives taken by us since, in the field of nuclear disarmament have been in harmony and in continuation of those early enunciation.

4. In the 50's, nuclear weapons testing took place above ground and the characteristic mushroom cloud became the visible symbol of the nuclear age. India then took the lead in calling for an end to all nuclear weapon testing as the first step for ending the nuclear arms race. Addressing the Lok Sabha on 2 April, 1954, shortly after a major hydrogen bomb test had been conducted, Pt. Jawaharlal Nehru stated that "nuclear, chemical and biological energy and power should not be used to forge weapons of mass destruction". He called for negotiations for prohibition and elimination of nuclear weapons and in the interim, a standstill agreement to halt nuclear testing. The world had by then witnessed less than 65 tests. Our call was not heeded. In 1963, an agreement was concluded to ban atmospheric testing but by this time, countries had developed the technologies for conducting underground nuclear tests and

the nuclear arms race continued unabated. More than three decades passed and after over 2000 tests had been conducted, a Comprehensive
Test Ban Treaty was opened for signature in 1996, following two and a half years of negotiations in which India had participated actively. In its final shape, this Treaty left much to be desired. It was neither comprehensive nor was it related to disarmament.

5. In 1965, along with a small group of non-aligned countries, India had put forward the idea of an international non-proliferation agreement under which the nuclear weapon states would agree to give up their arsenals provided other countries refrained from developing or acquiring such weapons. This balance of rights and obligations was absent when the Nuclear Non-Proliferation Treaty(NPT) emerged in 1968, almost 30 years ago. In the 60's our security concerns deepened. But such was our abhorrence of nuclear weapons and such our desire to avoid acquiring them that we souglaustead security guarantees from major nuclear powers of the world. The countries we turned to for support and understanding felt unable to extend to us the assurances that we then sought. That is when and why India made clear its inability to sign the NPT.

6. The Lok Sabha debated the NPT on 5 April, 1968. The then Prime Minister, late Smt. Indira Gandhi assured the House that "we shall be guided entirely by our self-enlightenment and the considerations of national security". She highlighted the shortcomings of the NPT whilst reemphasising the country's commitment to nuclear disarmament. She warned the House and the country "that not signing the Treaty may bring the nation many difficulties. It may mean the stoppage of aid and stoppage of help. Since we are taking this decision together, we must all be together in facing its consequences". That was a turning point. This House then strengthened the decision of the Government by reflecting a national consensus.

7. Our decision not to sign the NPT was in keeping with the basic objective of maintaining freedom of thought and action. In 1974, we demonstrated our nuclear capability. Successive Governments thereafter have continued to take all necessary steps in keeping with that resolve and national will, to safeguard India's nuclear option. This was also the primary reason underlying the 1996 decision in the country not subscribing to the Comprehensive Test Ban Treaty (CTBT); a decision that met the unanimous approval of the House yet again. Our perception then was that subscribing

to the CTBT would severely limit India's nuclear potential at an unacceptably low level. Our reservations deepened as the CTBT did not also carry forward the nuclear disarmament process. On both counts, therefore, yet again our security concerns remained unaddressed. The then Minister for External Affairs, shri I.K Gujral had made clear the Government's reasoning to this House during the discussions on this subject in 1996.

8. The decades of the 80's and 90's meanwhile witnessed the gradual deterioration of our security environment as a result of nuclear and missile proliferation. In our neighbourhood, nuclear weapons increased and more sophisticated delivery systems were inducted. Further, in our region there has come into existence a pattern about clandestine acquisition of nuclear materials, missiles and related technologies. India, in this period, became the victim of externally aided and abetted terrorism, militancy and clandestine war through hired mercenaries.

9. The end of the Cold War marks a watershed in the history of the 20th century. While it has transformed the political landscape of Europe, it has done little to address India's security concerns. The relative order that was arrived at the Europe was not replicated in other parts of the globe.

10. At the global level, there is no evidence yet on the part of the nuclear weapon states to take decisive and irreversible steps in moving towards a nuclear-weapon-free-world. Instead, the NPT has been extended indefinitely and unconditionally, perpetuating the existence of nuclear weapons in the hands of the five countries who are also permanent members of the UN Security Council. Some of these countries have doctrines that permit the first use of nuclear weapons; these countries are also engaged in programmes for modernisation of their nuclear arsenals.

11. Under such circumstances, India was left with little choice. It had to take necessary steps to ensure that the country's nuclear option, developed and safeguarded over decades not be permitted to erode by a voluntary self-imposed restraint. Indeed, such an erosion would have had an irremediably adverse impact on our security. The Government was thus faced with a difficult decision. The only touchstone that guided it was national security. Tests conducted on 11 and 13 May are a continuation of the policies set into motion that put this country on the path of self-reliance and

independence of thought and action. Nevertheless, there are certain moments when the chosen path reaches a fork and a decision has to be made. 1968 was one such moment in our nuclear chapter as were 1974 and 1996. At each of these moments, we took the right decision guided by national interest and supported by national consensus. 1998 was borne in the crucible of earlier decisions and made possible only because those decisions had been taken correctly in the past and in time.

12. At a time when developments in the area of advanced technologies are taking place at a breath-taking pace, new parameters need to be identified, tested and validated in order to ensure that skills remain contemporary and succeeding generations of scientists and engineers are able to build on the work done by their predecessors. The limited series of five tests undertaken by Indian was precisely such an exercise. It has achieved its stated objective. The data provided by these tests is critical to validate our capabilities in the design of nuclear weapons of different yields for different applications and different delivery systems. Further, these tests have significantly enhanced the capabilities of our scientists and engineers in computer simulation of new designs and enabled them to undertake sub-critical experiments in future, if considered necessary. In terms of technical capability, our scientists and engineers have the requisite resources to ensure a credible deterrent.

13. Our policies towards our neighbours and other countries too have not changed; India remains fully committed to the promotion of peace with stability, and resolution of all outstanding issues through bilateral dialogue and negotiations. These tests were not directed against any country; these were intended to reassure the people of India about their security and convey determination that this Government, like previous Governments, has the capability and resolve to safeguard their national security interests. The Government will continue to remain engaged in substantive dialogue with our neighbours to improve relations and to expand the scope of our interactions in a mutually advantageous manner. Confidence building is a continuous process; we remain committed to it. Consequent upon the tests and arising from an insufficient appreciation of our security concerns, some countries have been persuaded to take steps that sadden us. We value our bilateral relations. We remain committed to dialogue and reaffirm that preservation of India's security creates no conflict of interest with these countries.

14. India is a nuclear weapon state. This is a reality that cannot be denied. It is not a conferment that we seek; nor is it a status for others to grant. It is an endowment to the nation by our scientists and engineers. It is India's due, the right of one-sixth of human-kind. Our strengthened capability adds to our sense of responsibility; the responsibility and obligation of power. India, mindful of its international obligation, shall not use these weapons to commit aggression or to mount threats against any country; these are weapons of self-defence and to ensure that in turn, India is also not subjected to nuclear threats or coercion. In 1994, we had proposed that India and Pakistan jointly undertake not to be the first to use their nuclear capability against each other. The Government on this occasion reiterates its readiness to discuss a "no-first-use" agreement with that country. As also with other countries bilaterally, or in a collective forum. India shall not engage in an arms race. India shall also not subscribe or reinvent the doctrines of the Cold War. India remains committed to the basic tenet of our foreign policy- a conviction that global elimination of nuclear weapons will enhance its security as well as that of the rest of the world. It will continue to urge countries, particularly other nuclear weapon states to adopt measures that would contribute meaningfully to such an objective.

15. A number of initiatives have been taken in the past. In 1978, India proposed negotiations for an international convention that would prohibit the use or threat of use or threat of use of nuclear weapons. This was followed by another initiative in 1982 calling for `nuclear freeze`- a prohibition on production of fissile materials for weapons, on production of nuclear weapons and related delivery systems. In 1988, we put forward an Action Plan for phased elimination of all nuclear weapons within a specified time frame. It is our regret that this proposal did not receive a positive response from other weapon states. Had their response been positive, India need not have gone for the current tests. This is where our approach to nuclear weapons is doctrine. It is marked by restraint and striving for the total elimination of all weapons of mass destruction.

16. We will continue to support such initiatives, taken individually or collectively by the Non-Aligned Movement which has continued to attach the highest priority to nuclear disarmament. This was reaffirmed most recently, last week, at the NAM Ministerial meeting held at Cartagena which has "reiterated their call on the Conference

on Disarmament to establish, as the highest priority, an ad hoc committee to start in 1998 negotiations on a phased programme for the complete elimination of nuclear weapons with a specified framework of time, including a Nuclear Weapons Convention. The collective voice of 113 NAM countries reflects an approach to global nuclear disarmament to which India has remained committed. One of the NAM member initiatives to which we attach great importance was the reference to the International Court of

Justice resulting in the unanimous declaration from the ICJ, as part of the Advisory Opinion handed down on 8 July 1996, that "there exists an obligation to pursue in good faith and bring to a conclusion negotiation leading to nuclear disarmament in all its aspects under strict and effective international control". India was one of the countries that appealed to the ICJ on this issue. No other nuclear weapon state has supported this judgement; in fact, they have sought to decry its value. We have been and will continue to be in the forefront of the calls for opening negotiations for a Nuclear Weapons Convention, so that this challenge can be dealt with in the same manner that we have dealt with the scourge of two other weapons of mass destruction through the Biological Weapons Convention and the Chemical Weapons Convention. In keeping with our commitment to comprehensive, universal and non-discriminatory approaches to disarmament, India is an original State Party to both these Conventions. Accordingly, India will shortly submit the plan of destruction of its chemical weapons to the international authority-Organisation for the Prohibition of Chemical Weapons. We fulfil our obligations whenever we undertake them.

17. Traditionally, India has been an outward-looking country. Our strong commitment to multilateralism is reflected in our active participation in organisations like the United Nations. In recent years, in keeping with the Indian Ocean Rim-Association for Regional Cooperation and as a member of the ASEAN Regional Forum. This engagement will also continue. The policies of economic liberalisation introduced in recent years have increased our regional and global linkages and the Government shall deepen and strengthen these ties.

18. Our nuclear policy has been marked by restraint and openness. It has not violated any international agreements either in 1974 or now, in 1998. Our concerns have been made known to our interlocuters in recent years. The restraint exercised for

24 years, after having demonstrated our capability in 1974, is in itself a unique example. Restraint, however, has to arise from strength. It cannot be based upon indecision or doubt. Restraint is valid only when doubts are removed. The series of tests undertaken by India have led to the removal of doubts. The action involved was balanced in that it was the minimum necessary to maintain what is an irreducible component of our national security calculus. This Government's decision has, therefore, to be seen as part of a tradition of restraint that has characterised our policy in the past 50 years.

19. Subsequent to the tests Government has already stated that India will now observe a voluntary moratorium and refrain from conducting underground nuclear test explosions. It has also indicated willingness to move towards a de-jure formalisation of this declaration. The basic obligation of the CTBT are thus met; to refrain from undertaking nuclear test explosions. This voluntary declaration is intended to convey to the international community the seriousness of our intent for meaningful engagement. Subsequent decisions will be taken after assuring ourselves of the security needs of the country.

20. India has also indicated readiness to participate in negotiations in the Conference on Disarmament in Geneva on a Fissile Material Cut-off Treaty. The basic objective of this treaty is to prohibit future production of fissile materials for use in nuclear weapons or nuclear explosive devices. India's approach in these negotiations will be to ensure that this treaty emerges as a universal and non-discriminatory treaty, backed by an effective verification mechanism. When we embark on these negotiations, it shall be in the full confidence of the adequacy and credibility of the nation's weaponised nuclear deterrent.

21. India has maintained effective export controls on nuclear materials aswell as related technologies even though we are neither a party to the NPT nor a member of the Nuclear Suppliers' Group. Nonetheless, India is committed to non-proliferation and the maintaining of stringent export controls to ensure that there is no leakage of our indigenously developed know-how and technologies. In fact, India’s conduct in this regard has been better than some countries party to the NPT.

22. India has in the past conveyed our concerns on the inadequacies of the international nuclear non-proliferation regime. It has explained that the country was not

in a position to join because the regime did not address our country's security concerns. These could have been addressed by moving towards global nuclear disarmament, our preferred approach. As this did not take place, India was obliged to stand aside from the emerging regime so that its freedom of action was not constrained. This is the precise path that has continued to be followed unwaveringly for the last three decades. That same constructive approach will underlie India's dialogue with countries that need to be persuaded of our serious intent and willingness to engage so that mutual concerns are satisfactorily addressed. The challenge to Indian statecraft is balancing and reconciling India's security imperatives with valid international concerns in this regard.

23. The House is aware of the different reactions that have emanated from the people of India and from different parts of the world. The overwhelming support of the citizens of India is a source of strength for the Government. It not only tells that this decision was right but also that the country wants a focussed leadership, which attends to national security needs. This the Government pledges to do as a sacred duty. The Government have also been greatly heartened by the outpouring of support from Indians abroad. They have, with one voice, spoken in favour of the Government's action. The Government conveys its profound gratitude to the citizens of India and to Indians abroad, and looks to them for support in the difficult period ahead.

24. In this, the fiftieth year of our independence, India stands at a defining moment in our history. The rationale for the Government's decision is based on the same policy tenets that have guided the country for five decades. These policies were sustained successfully because of the underlying national consensus. The present decision and future actions will continue to reflect a commitment to sensibilities and obligations of an ancient civilisation, a sense of responsibility and restraint, but a restraint born of the assurance of action, not of doubts or apprehension. The Gita explains (Chap VI-3) as none other can:

(This passage interprets as: Action is a process to reach a goal; action may reflect tumult but when measured and focussed, will yield its objective of stability and peace)

Appendix 2 - Draft Report of National Security Advisory Board on Indian Nuclear Doctrine August 17, 1999

Draft Report of National Security Advisory Board on Indian Nuclear Doctrine

August 17, 1999

Opening Remarks by National Security Adviser Mr. Brajesh Mishra at the Release of the Draft Report

1. Preamble

1. The use of nuclear weapons in particular as well as other weapons of mass destruction constitutes the gravest threat to humanity and to peace and stability in the international system. Unlike the other two categories of weapons of mass destruction, biological and chemical weapons which have been outlawed by international treaties, nuclear weapons remain instruments for national and collective security, the possession of which on a selective basis has been sought to be legitimised through permanent extension of the Nuclear Non-proliferation Treaty (NPT) in May 1995. Nuclear weapon states have asserted that they will continue to rely on nuclear weapons with some of them adopting policies to use them even in a non-nuclear context. These developments amount to virtual abandonment of nuclear disarmament. This is a serious setback to the struggle of the international community to abolish weapons of mass destruction.

2. India's primary objective is to achieve economic, political, social, scientific and technological development within a peaceful and democratic framework. This requires an environment of durable peace and insurance against potential risks to peace and stability. It will be India's endeavour to proceed towards this overall objective in cooperation with the global democratic trends and to play a

constructive role in advancing the international system toward a just, peaceful and equitable order.

3. Autonomy of decision making in the developmental process and in strategic matters is an inalienable democratic right of the Indian people. India will strenuously guard this right in a world where nuclear weapons for a select few are sought to be legitimised for an indefinite future, and where there is growing complexity and frequency in the use of force for political purposes.

4. India's security is an integral component of its development process. India continuously aims at promoting an ever-expanding area of peace and stability around it so that developmental priorities can be pursued without disruption.

5. However, the very existence of offensive doctrine pertaining to the first use of nuclear weapons and the insistence of some nuclear weapons states on the legitimacy of their use even against non-nuclear weapon countries constitute a threat to peace, stability and sovereignty of states.

6. This document outlines the broad principles for the development, deployment and employment of India's nuclear forces. Details of policy and strategy concerning force structures, deployment and employment of nuclear forces will flow from this framework and will be laid down separately and kept under constant review.

2. Objectives

1. In the absence of global nuclear disarmament India's strategic interests require effective, credible nuclear deterrence and adequate retaliatory capability should deterrence fail. This is consistent with the UN Charter, which sanctions the right of self-defence.

2. The requirements of deterrence should be carefully weighed in the design of Indian nuclear forces and in the strategy to provide for a level of capability consistent with maximum credibility, survivability, effectiveness, safety and security.

3. India shall pursue a doctrine of credible minimum nuclear deterrence. In this policy of "retaliation only", the survivability of our arsenal is critical. This is a dynamic concept related to the strategic environment, technological imperatives and the needs of national security. The actual size components, deployment and employment of nuclear forces will be decided in the light of these factors. India's peacetime posture aims at convincing any potential aggressor that :

(a) any threat of use of nuclear weapons against India shall invoke measures to counter the threat: and (b) any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.

4. The fundamental purpose of Indian nuclear weapons is to deter the use and threat of use of nuclear weapons by any State or entity against India and its forces. India

will not be the first to initiate a nuclear strike, but will respond with punitive retaliation should deterrence fail.

5. India will not resort to the use or threat of use of nuclear weapons against States which do not possess nuclear weapons, or are not aligned with nuclear weapon powers.

6. **Deterrence requires that India maintain**:

(a) Sufficient, survivable and operationally prepared nuclear forces,

(b) a robust command and control system,

(c) effective intelligence and early warning capabilities, and

(d) comprehensive planning and training for operations in line with the strategy, and(e) the will to employ nuclear forces and weapons

7. Highly effective conventional military capabilities shall be maintained to raise the threshold of outbreak both of conventional military conflict as well as that of threat or use of nuclear weapons.

3. Nuclear Forces

1. India's nuclear forces will be effective, enduring, diverse, flexible, and responsive to the requirements in accordance with the concept of credible minimum deterrence. These forces will be based on a triad of aircraft, mobile land-based missiles and sea-based assets in keeping with the objectives outlined above. Survivability of the forces will be enhanced by a combination of multiple redundant systems, mobility, dispersion and deception.

2. The doctrine envisages assured capability to shift from peacetime deployment to fully employable forces in the shortest possible time, and the ability to retaliate effectively even in a case of significant degradation by hostile strikes.

4. Credibility and Survivability

The following principles are central to India's nuclear deterrent:

1. **Credibility**: Any adversary must know that India can and will retaliate with sufficient nuclear weapons to inflict destruction and punishment that the aggressor will find unacceptable if nuclear weapons are used against India and its forces.

2. **Effectiveness**: The efficacy of India's nuclear deterrent be maximised through synergy among all elements involving reliability, timeliness, accuracy and weight of the attack.

3. **Survivability**:

I. India's nuclear forces and their command and control shall be organised for very high survivability against surprise attacks and for rapid punitive response. They shall be designed and deployed to ensure survival against a first strike and to endure repetitive attrition attempts with adequate retaliatory

capabilities for a punishing strike which would be unacceptable to the aggressor.

II. Procedures for the continuity of nuclear command and control shall ensure a continuing capability to effectively employ nuclear weapons.

5. Command and Control

1. Nuclear weapons shall be tightly controlled and released for use at the highest political level. The authority to release nuclear weapons for use resides in the person of the Prime Minister of India, or the designated successor(s).
2. An effective and survivable command and control system with requisite flexibility and responsiveness shall be in place. An integrated operational plan, or a series of sequential plans, predicated on strategic objectives and a targetting policy shall form part of the system.
3. For effective employment the unity of command and control of nuclear forces including dual capable delivery systems shall be ensured.
4. The survivability of the nuclear arsenal and effective command, control, communications, computing, intelligence and information (C412) systems shall be assured.
5. The Indian defence forces shall be in a position to, execute operations in an NBC environment with minimal degradation.

6. Space based and other assets shall be created to provide early warning, communications, damage/detonation assessment.

6. Security and Safety

1. **Security**: Extraordinary precautions shall be taken to ensure that nuclear weapons, their manufacture, transportation and storage are fully guarded against possible theft, loss, sabotage, damage or unauthorised access or use.
2. **Safety** is an absolute requirement and tamper proof procedures and systems shall be instituted to ensure that unauthorised or inadvertent activation/use of nuclear weapons does not take place and risks of accident are avoided.

3. **Disaster control**: India shall develop an appropriate disaster control system capable of handling the unique requirements of potential incidents involving nuclear weapons and materials.

7. Research and Development

1. India should step up efforts in research and development to keep up with technological advances in this field.

2. While India is committed to maintain the deployment of a deterrent which is both minimum and credible, it will not accept any restraints on building its R&D capability.

8. Disarmament and Arms Control

1. Global, verifiable and non-discriminatory nuclear disarmament is a national security objective. India shall continue its efforts to achieve the goal of a nuclear weapon-free world at an early date.
2. Since no-first use of nuclear weapons is India's basic commitment, every effort shall be made to persuade other States possessing nuclear weapons to join an international treaty banning first use.
3. Having provided unqualified negative security assurances, India shall work for internationally binding unconditional negative security assurances by nuclear weapon states to non-nuclear weapon states.
4. Nuclear arms control measures shall be sought as part of national security policy to reduce potential threats and to protect our own capability and its effectiveness.
5. In view of the very high destructive potential of nuclear weapons, appropriate nuclear risk reduction and confidence building measures shall be sought, negotiated and instituted.

Opening Remarks by National Security Adviser Mr. Brajesh Mishra at the Release of Draft Indian Nuclear Doctrine : August 1 7,1999

Ladies & Gentlemen,

I am happy to present to you the draft of the Nuclear Doctrine prepared by the National Security Board. A copy has been placed in each of the seats in the hall. We have decided to make this document public in keeping with our position in favour of greater transparency in decision-making. Please note that this is a draft proposed by the NSAB and has not yet been approved by the Government. That will have to wait until after the general elections.

As our thinking on the nuclear tests has been fairly well publicised, I do not intend to go over the ground again. Suffice it to say that this was a step necessitated by the security environment and our need to ensure for ourselves the element of strategic autonomy in decision making which we will need in the coming years. Our position has all along been that global security would be enhanced by the universal elimination of all nuclear weapons, and this remains our conviction today. Unfortunately, the indefinite extension of the Non-Proliferation Treaty in 1995 was in the reverse direction.

Our nuclear weapons are not country-specific but, as I mentioned earlier, are aimed at providing us the autonomy of exercising strategic choices in the best interest of our country, without fear or coercion in a nuclearised environment. That being so, we have adopted a policy of minimum deterrence as the basic building block of our nuclear thinking. Minimum but credible deterrence is the watchword of our nuclear doctrine. From this, flows the decision to adopt a no-first-use posture. We have therefore given unconditional guarantees to States that do not have nuclear weapons, or are not aligned with nuclear weapon powers.

A cardinal principle regarding the use of nuclear weapons is that of civilian control. Only the elected civilian leader of the country is empowered to authorise the use of nuclear weapons. As the recent operations in Kargil have demonstrated, our system and the political leadership, believe with great responsibility and restraint, as you would expect from the largest democracy in the world. This sense of responsibility will also guide our actions with regard to nuclear weapons.

With these words, I have great pleasure in releasing the document for public discussion and debate.

Appendix 3 - Press Release by the Ministry of External Affairs on January 4, 2003, on the Cabinet Committee on Security Reviews Operationalization of India's Nuclear Doctrine

Ministry of External Affairs
Government of India

Home › Media Center › Press Releases

The Cabinet Committee on Security Reviews Operationalization of India's Nuclear Doctrine

January 04, 2003

1. The Cabinet Committee on Security (CCS) met today to review the progress in operationalizing of India's nuclear doctrine. The Committee decided that the following information, regarding the nuclear doctrine and operational arrangements governing India's nuclear assets, should be shared with the public.

2. India's nuclear doctrine can be summarized as follows: I. Building and maintaining a credible minimum deterrent;

II. A posture of "No First Use": nuclear weapons will only be used in retaliation against a nuclear attack on Indian territory or on Indian forces anywhere;

III. Nuclear retaliation to a first strike will be massive and designed to inflict unacceptable damage.

IV. Nuclear retaliatory attacks can only be authorised by the civilian political leadership through the Nuclear Command Authority.

V. Non-use of nuclear weapons against non-nuclear weapon states;

VI. However, in the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons;

VII. A continuance of strict controls on export of nuclear and missile related materials and technologies, participation in the Fissile Material Cut-off Treaty negotiations, and continued observance of the moratorium on nuclear tests.

VIII. Continued commitment to the goal of a nuclear weapon free world, through global, verifiable and non-discriminatory nuclear disarmament.

3. The Nuclear Command Authority comprises a Political Council and an Executive Council. The Political Council is chaired by the Prime Minister. It is the sole body which can authorize the use of nuclear weapons.

4. The Executive Council is chaired by the National Security Advisor. It provides inputs for decision making by the Nuclear Command Authority and executes the directives given to it by the Political Council.

5. The CCS reviewed the existing command and control structures, the state of readiness, the targeting strategy for a retaliatory attack, and operating procedures for various stages of alert and launch. The Committee expressed satisfaction with the overall preparedness. The CCS approved the appointment of a Commander-in-Chief, Strategic Forces Command, to manage and administer all Strategic Forces.

6. The CCS also reviewed and approved the arrangements for alternate chains of command for retaliatory nuclear strikes in all eventualities.

New Delhi January 4, 2003

Appendix 4 - Research Survey Questionnaire

A Study of No First Use (NFU) Policy in the Indian Nuclear Doctrine (IND) for Deterrence

It is an online survey as part of the Research Paper being submitted to Panjab University for the Advanced Professional Programme in Public Administration (APPPA) conducted by the Indian Institute of Public Administration (IIPA).

I am attaching the Ministry of External Affairs press release on Indian Nuclear Doctrine dated 04 Jan 2003 for your ready reference. Kindly refer to the document before you give your valuable opinions. https://drive.google.com/file/d/1xB5u-eFhwZ33uc6uvnhAjnUJwSkkfeS4/view?usp=sharing

ANONYMITY OF THE RESPONDERS WILL BE ENSURED (No Names & email IDs)

1. Your age group

Mark only one oval.

- ◯ Below 35
- ◯ 36 to 45
- ◯ 46 to 55
- ◯ 56 and above

2. Your educational qualification

Mark only one oval.

- ◯ Undergraduate
- ◯ Post Graduate
- ◯ M Phil or Ph D

3. Your profession or status

Mark only one oval.

- Academician
- Strategic Analyst
- Research Scholar
- Student
- None of the above

4. Are you a part of any department/university which analyses national and/or international policies?

Mark only one oval.

- Yes
- No

5. Are you part of any Think Tank?

Mark only one oval.

- Yes
- No

6. Is Indian Nuclear Doctrine in the present form providing deterrence against Pakistan?

Mark only one oval.

	1	2	3	4	5	
Not Providing						Providing

7. Is Indian Nuclear Doctrine in the present form providing deterrence against China?

Mark only one oval.

	1	2	3	4	5	
Not Providing						Providing

8. Assess the component "Credible Minimum Deterrent" of Indian Nuclear Doctrine for their relevance to afford deterrence value *Mark only one oval.*

	1	2	3	4	5	
Least						Most

9. Assess the component "No First Use (NFU)" of Indian Nuclear Doctrine for their relevance to afford deterrence value *Mark only one oval.*

	1	2	3	4	5	
Least	◯	◯	◯	◯	◯	Most

10. Assess the component "Massive retaliation & unacceptable damage" of Indian

Nuclear Doctrine for their relevance to afford deterrence value

Mark only one oval.

	1	2	3	4	5	
Least	◯	◯	◯	◯	◯	Most

11. Assess the component "Non-use against non-nuclear weapon states" of Indian

Nuclear Doctrine for their relevance to afford deterrence value

Mark only one oval.

	1	2	3	4	5	
Least	◯	◯	◯	◯	◯	Most

12. Assess the component "Nuclear retaliation against attack by biological or chemical weapons" of Indian Nuclear Doctrine for their relevance to afford deterrence value *Mark only one oval.*

	1	2	3	4	5	
Least	◯	◯	◯	◯	◯	Most

13. Which of the following components constitute the core of Indian Nuclear Doctrine?

Tick all that apply.

- [ ] Credible Minimum Deterrent
- [ ] No First Use (NFU)
- [ ] Massive retaliation & unacceptable damage
- [ ] Non-use against non-nuclear weapon states
- [ ] Nuclear retaliation against attack by biological or chemical weapons.

14. Is India's commitment of No First Use (NFU) of nuclear weapons essential to prove being a 'responsible' state?

Mark only one oval.

- ◯ Strongly disagree
- ◯ Disagree
- ◯ Neutral
- ◯ Agree
- ◯ Strongly agree

15. Is NFU policy in Indian Nuclear Doctrine weakening the deterrence against its nuclear adversaries in the neighbourhood?

Mark only one oval.

	1	2	3	4	5	
Weakening	◯	◯	◯	◯	◯	Not Weakening

16. Is it necessary to review the current NFU policy in Indian nuclear doctrine in a trilateral nuclear setting?

Mark only one oval.

	1	2	3	4	5	
Not Necessary to Review	◯	◯	◯	◯	◯	Necessary to Review

17. Will abandoning of NFU policy impact deterrence value of Indian Nuclear Doctrine?

Mark only one oval.

	1	2	3	4	5	
Will not Impact	◯	◯	◯	◯	◯	Will Impact

18. How will deletion of NFU from Indian Nuclear Doctrine affect the deterrence value?

Mark only one oval.

	1	2	3	4	5	
Weaken	◯	◯	◯	◯	◯	Strengthen

19. What could be the implications of revising the current NFU policy in Indian nuclear doctrine in a trilateral nuclear setting? Against Pakistan *Mark only one oval.*

	1	2	3	4	5	
Weaken	◯	◯	◯	◯	◯	Strengthen

20. What could be the implications of revising the current NFU policy in Indian nuclear doctrine in a trilateral nuclear setting? Against China *Mark only one oval.*

	1	2	3	4	5	
Weaken	◯	◯	◯	◯	◯	Strengthen

21. In your opinion, what should be the nature and form of policy on USE of nuclear weapons in Indian nuclear doctrine?

Mark only one oval.

- ◯ No First Use
- ◯ Ambiguous
- ◯ First Use

22. Do you recommend deletion or revision of NFU policy from Indian nuclear doctrine?

Mark only one oval.

- ◯ Deletion
- ◯ Revision
- ◯ No Change

23. A threat of FIRST USE of nuclear weapons instil greater uncertainty in adversaries and thereby deter them from even non-nuclear provocations *Mark only one oval.*

	1	2	3	4	5	
Disagree	◯	◯	◯	◯	◯	Agree

24. Will India's massive nuclear retaliation designed to inflict unacceptable damage to a first strike by a tactical nuclear weapon be acceptable in this new world order?

Mark only one oval.

	1	2	3	4	5	
Unacceptable	◯	◯	◯	◯	◯	Acceptable

25. If India's Nuclear Doctrine is deterring Pakistan from using tactical nuclear weapons (TNW) against Indian forces in their soil, will India be justified to a massive nuclear retaliation?

Mark only one oval.

	1	2	3	4	5	
Unjustified	◯	◯	◯	◯	◯	Justified

26. Will this statement in India's Nuclear Doctrine "In the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons, India will retain the option of retaliating with nuclear weapons" justify a massive nuclear retaliation by India?

Mark only one oval.

	1	2	3	4	5	
Unjustifiable	◯	◯	◯	◯	◯	Justifiable

27. Do you observe any weakness or gaps in the present form of Indian Nuclear Doctrine?

Mark only one oval.

◯ Yes

◯ No

28. If there are weaknesses or gaps in the stated Indian Nuclear Doctrine, please indicate them from the following attributes

Tick all that apply.

- [ ] Credible Minimum Deterrent
- [ ] No First Use (NFU)
- [ ] Massive retaliation & unacceptable damage
- [ ] Non use against non-nuclear weapon states
- [ ] Nuclear retaliation against attack by biological or chemical weapons.

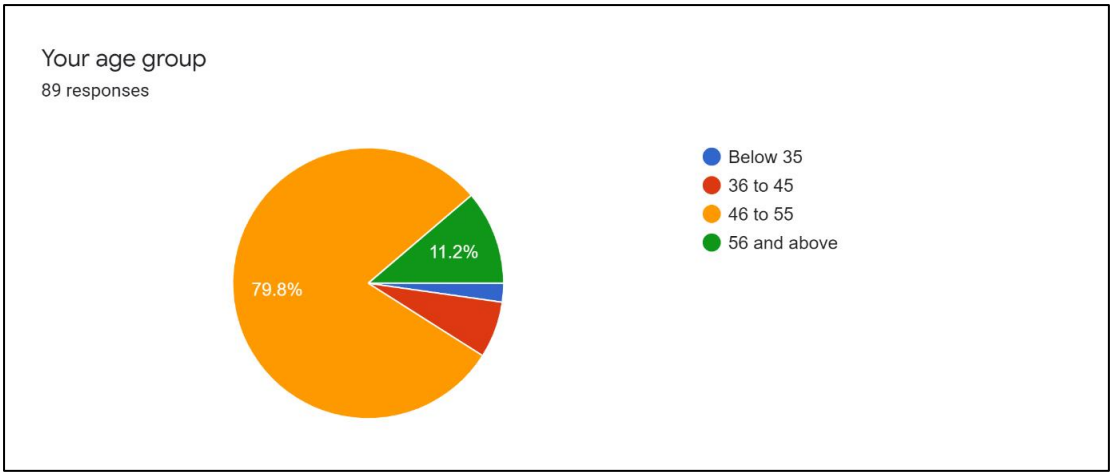
29. Do you recommend revision of any other associated attributes in Indian Nuclear Doctrine, so to deter its nuclear neighbours?

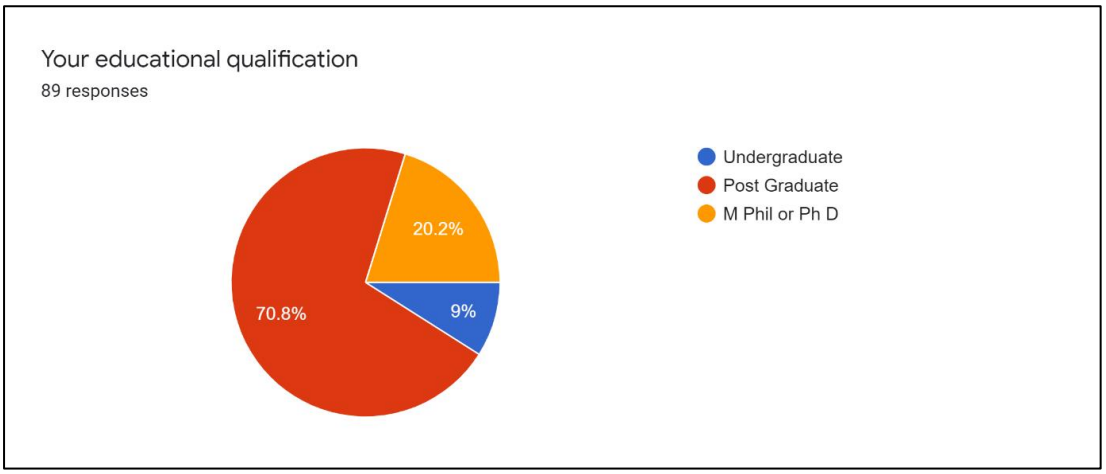
Tick all that apply.

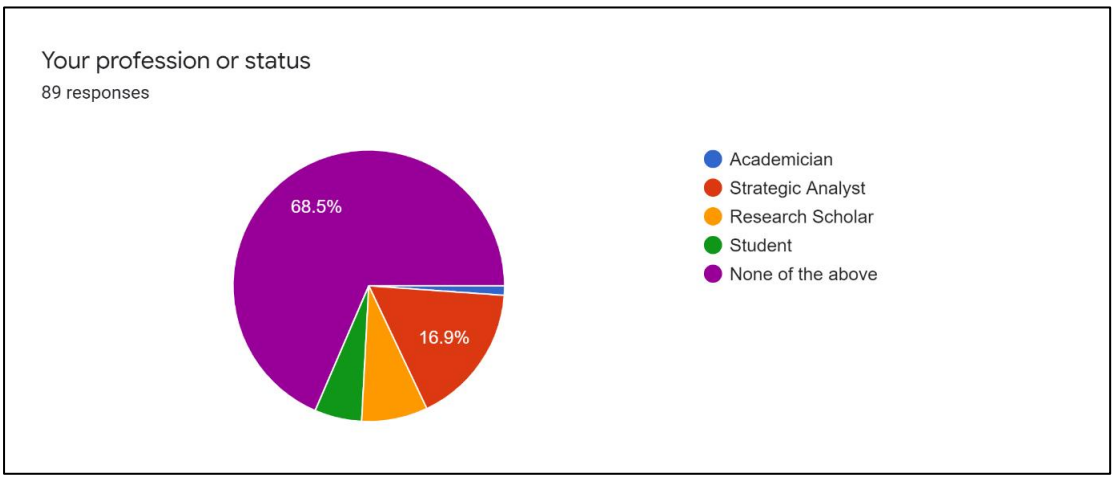
- [ ] Credible Minimum Deterrent
- [ ] Massive retaliation & unacceptable damage
- [ ] Non-use against non-nuclear weapon states
- [ ] Nuclear retaliation against attack by biological or chemical weapons.

Appendix 5 - Research Survey Responses

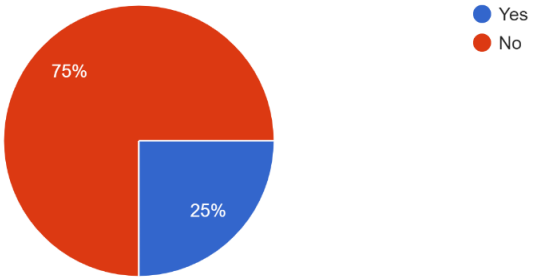
A Study of No First Use (NFU) Policy in the Indian Nuclear Doctrine (IND) for Deterrence



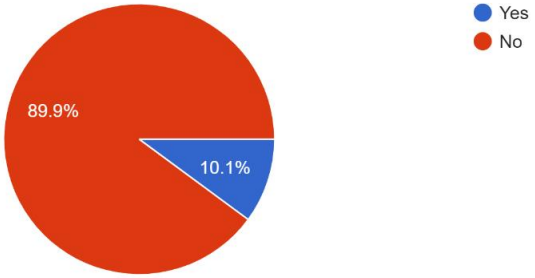




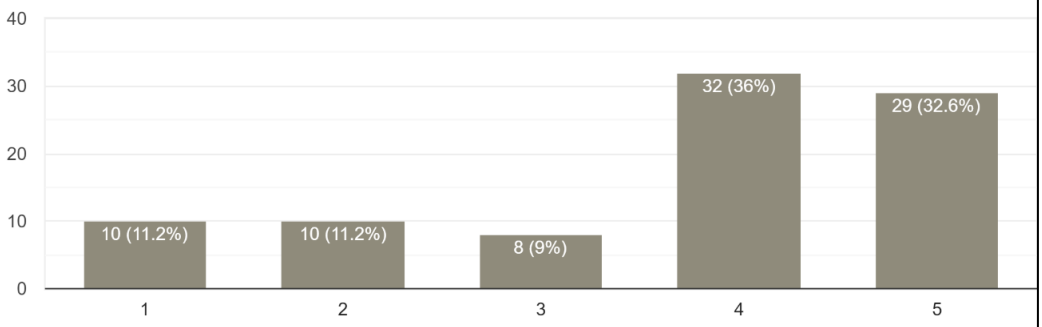
Are you a part of any department/university which analyses national and/or international policies?
88 responses



Are you part of any Think Tank?
89 responses

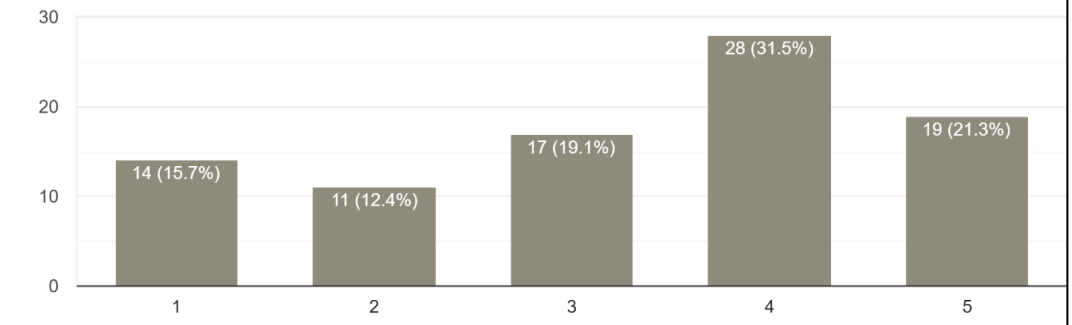


Is Indian Nuclear Doctrine in the present form providing deterrence against Pakistan?
89 responses



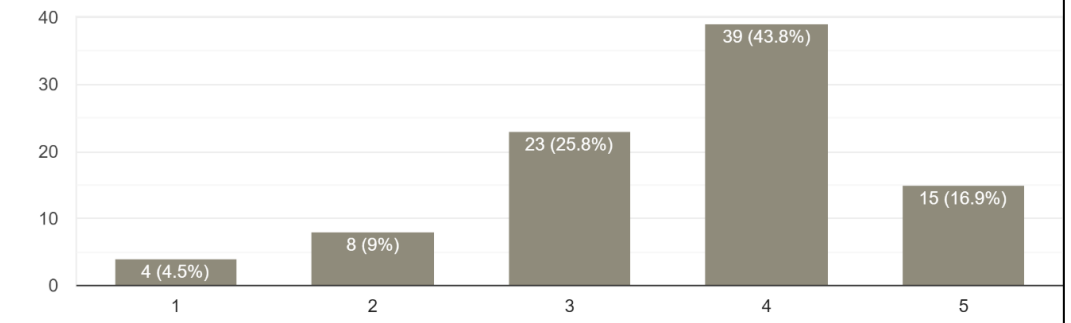
Is Indian Nuclear Doctrine in the present form providing deterrence against China?

89 responses



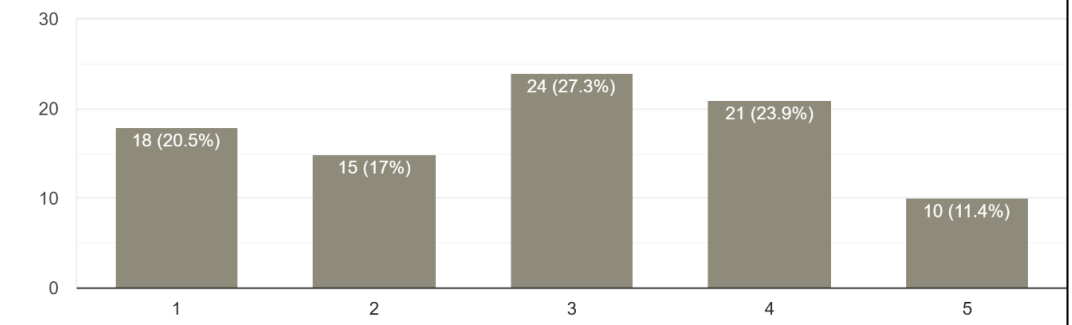
Assess the component "Credible Minimum Deterrent" of Indian Nuclear Doctrine for their relevance to afford deterrence value

89 responses



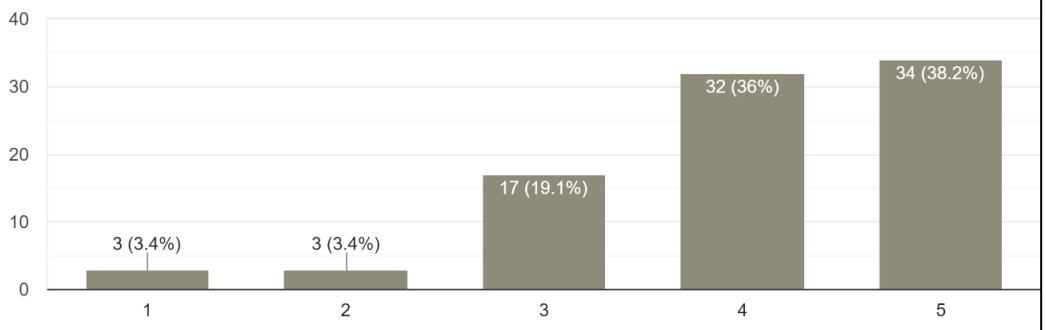
Assess the component "No First Use (NFU)" of Indian Nuclear Doctrine for their relevance to afford deterrence value

88 responses



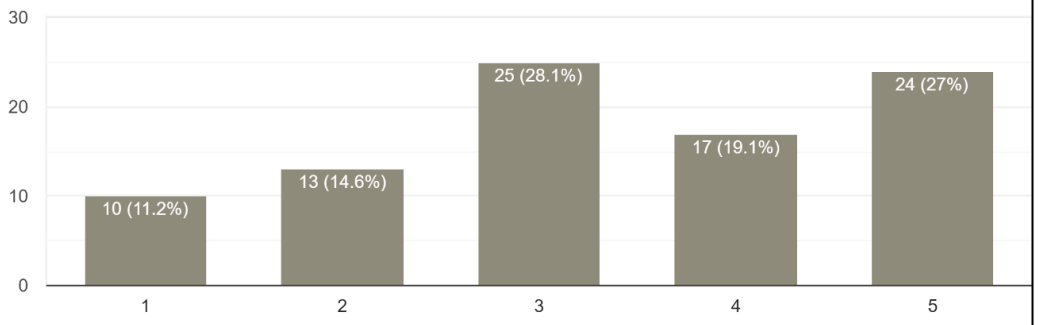
Assess the component "Massive retaliation & unacceptable damage" of Indian Nuclear Doctrine for their relevance to afford deterrence value

89 responses



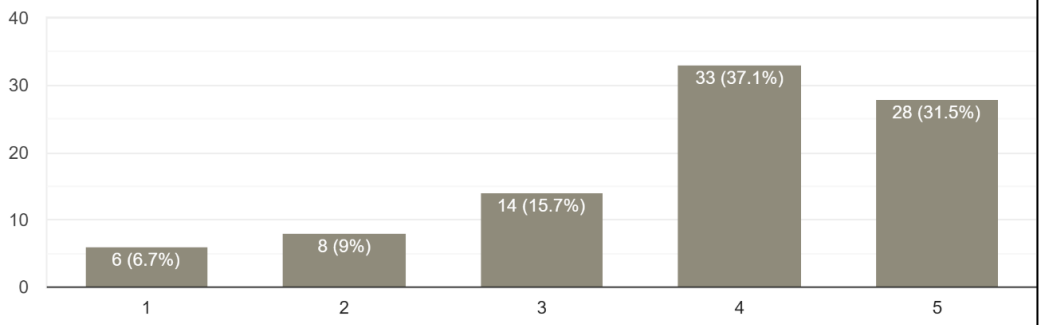
Assess the component "Non-use against non-nuclear weapon states" of Indian Nuclear Doctrine for their relevance to afford deterrence value

89 responses



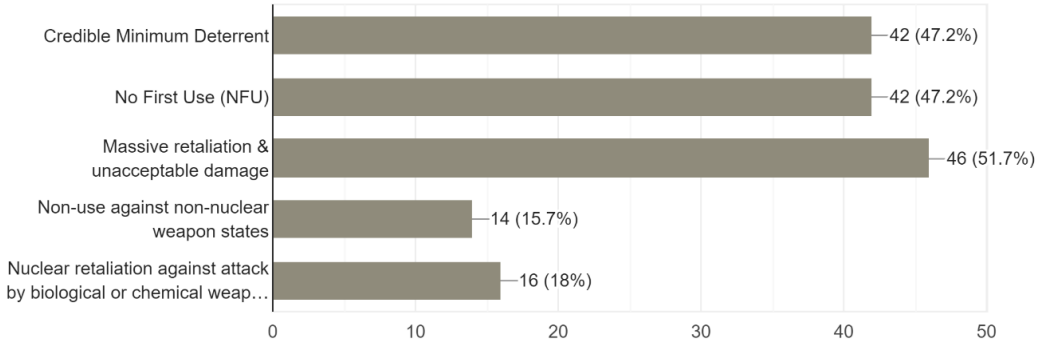
Assess the component "Nuclear retaliation against attack by biological or chemical weapons" of Indian Nuclear Doctrine for their relevance to afford deterrence value

89 responses



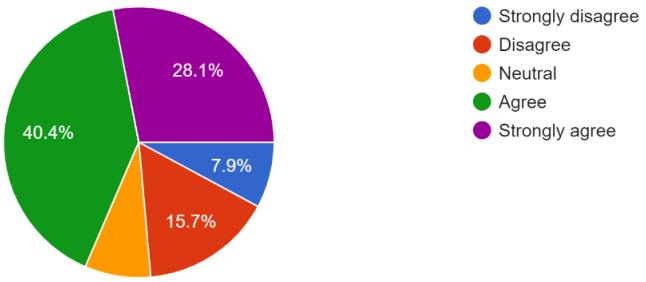
Which of the following components constitute the core of Indian Nuclear Doctrine?

89 responses



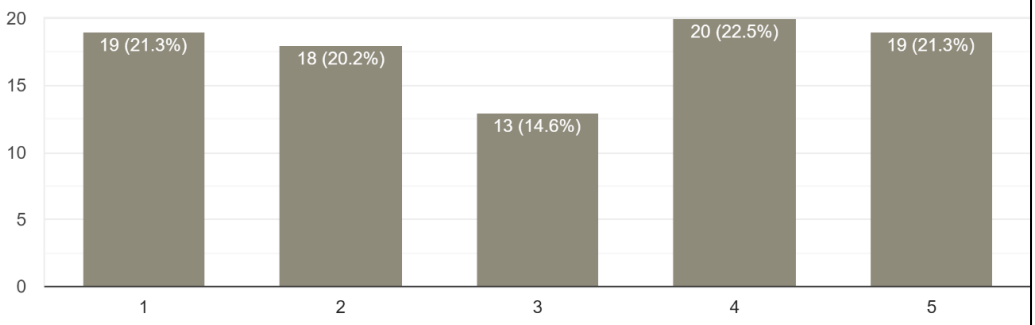
Is India's commitment of No First Use (NFU) of nuclear weapons essential to prove being a 'responsible' state?

89 responses



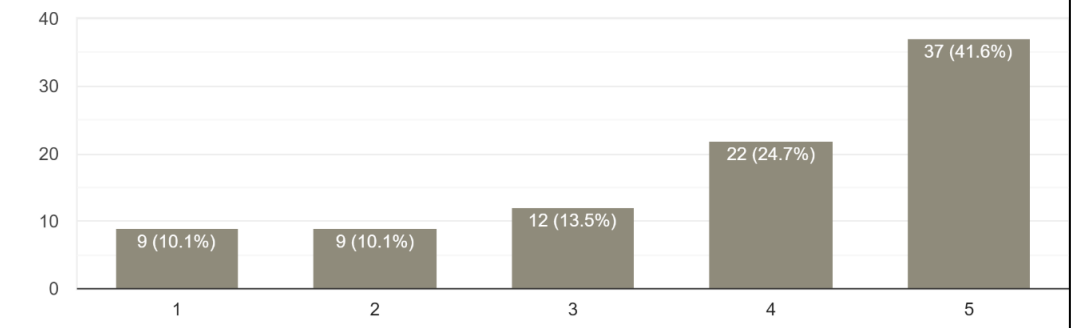
Is NFU policy in Indian Nuclear Doctrine weakening the deterrence against its nuclear adversaries in the neighbourhood?

89 responses



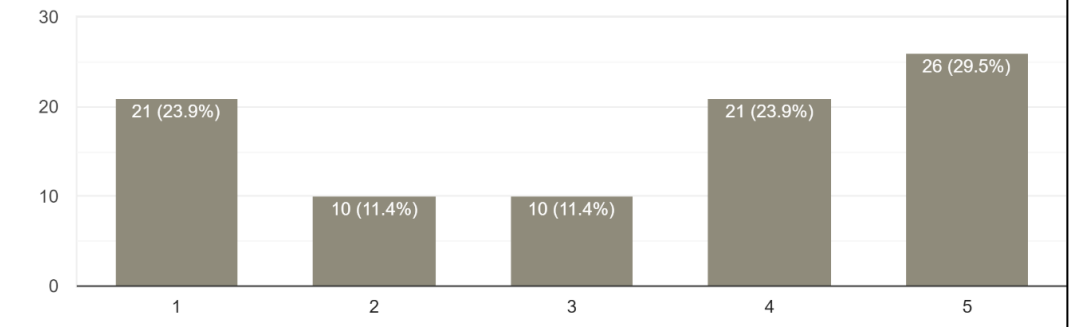
Is it necessary to review the current NFU policy in Indian nuclear doctrine in a trilateral nuclear setting?

89 responses



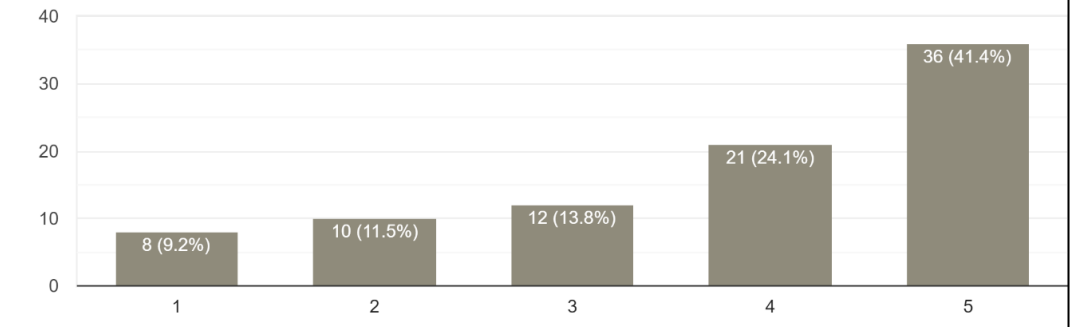
Will abandoning of NFU policy impact deterrence value of Indian Nuclear Doctrine?

88 responses



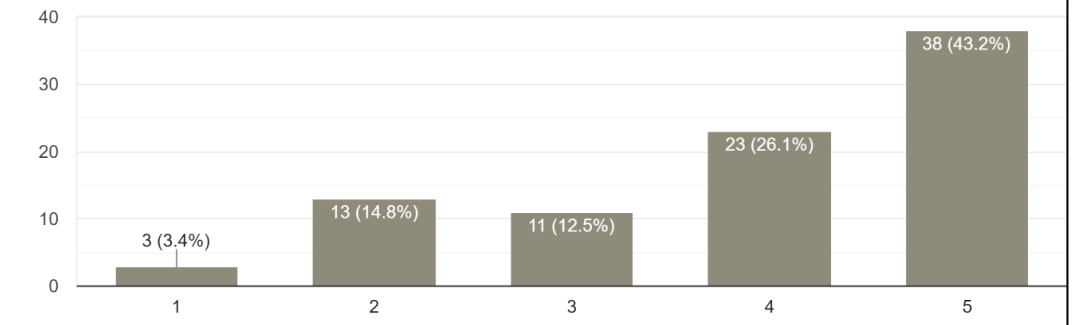
How will deletion of NFU from Indian Nuclear Doctrine affect the deterrence value?

87 responses



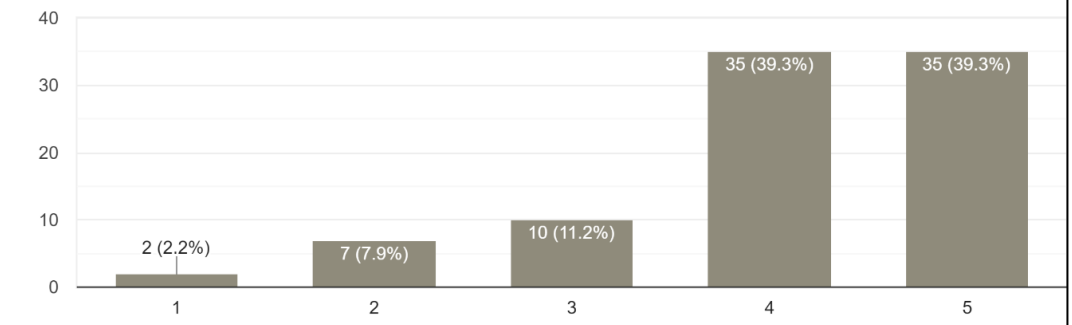
What could be the implications of revising the current NFU policy in Indian nuclear doctrine in a trilateral nuclear setting? Against Pakistan

88 responses



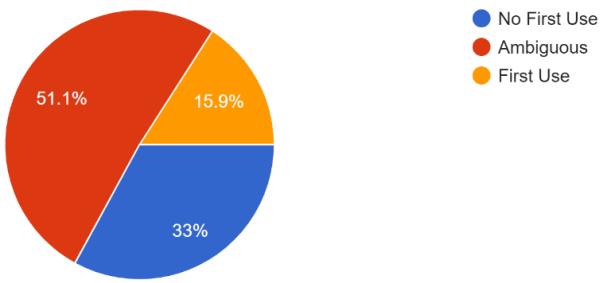
What could be the implications of revising the current NFU policy in Indian nuclear doctrine in a trilateral nuclear setting? Against China

89 responses



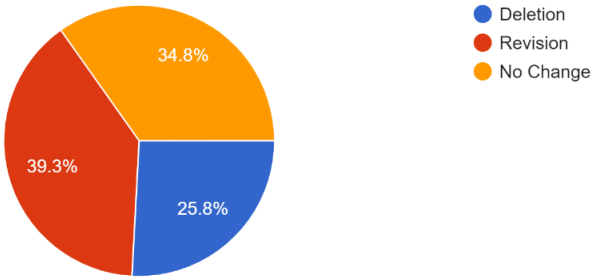
In your opinion, what should be the nature and form of policy on USE of nuclear weapons in Indian nuclear doctrine?

88 responses



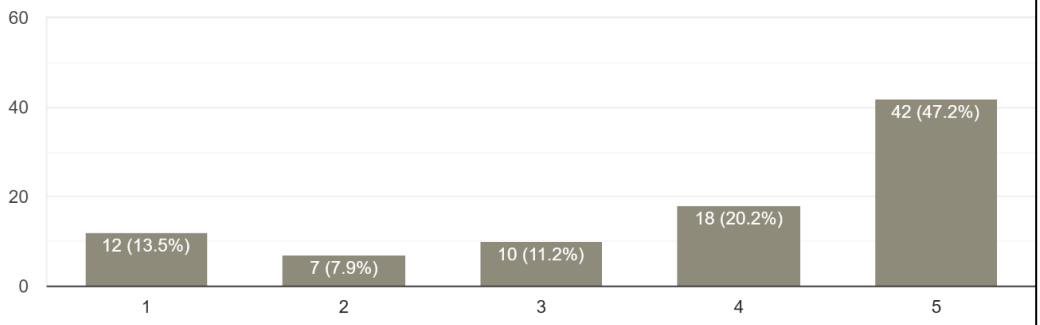
Do you recommend deletion or revision of NFU policy from Indian nuclear doctrine?

89 responses



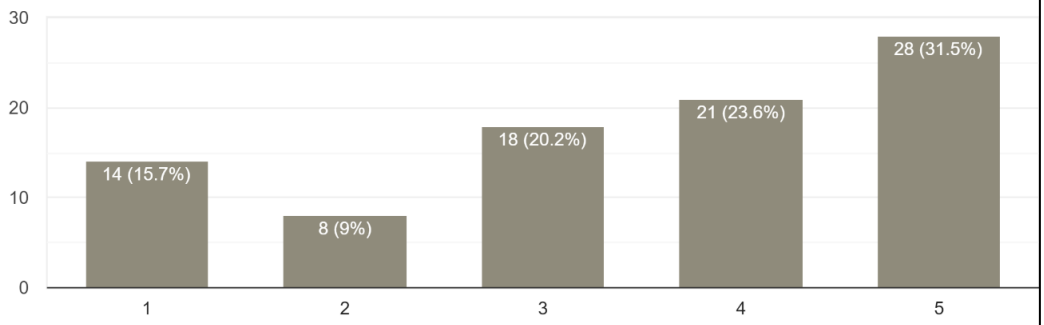
A threat of FIRST USE of nuclear weapons instill greater uncertainty in adversaries and thereby deter them from even non-nuclear provocations

89 responses



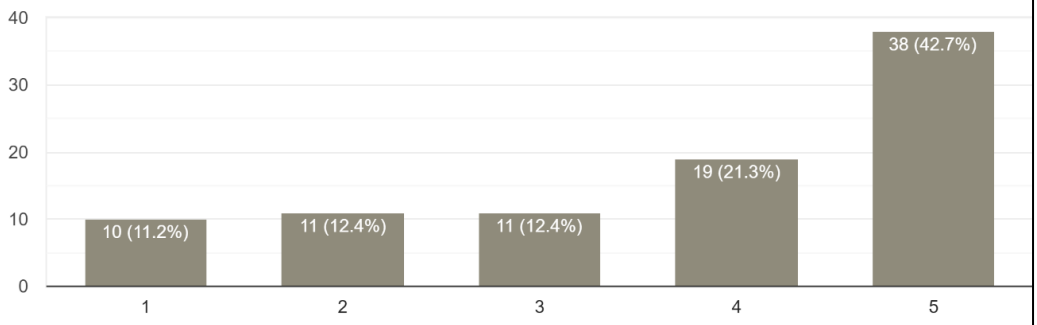
Will India's massive nuclear retaliation designed to inflict unacceptable damage to a first strike by a tactical nuclear weapon be acceptable in this new world order?

89 responses



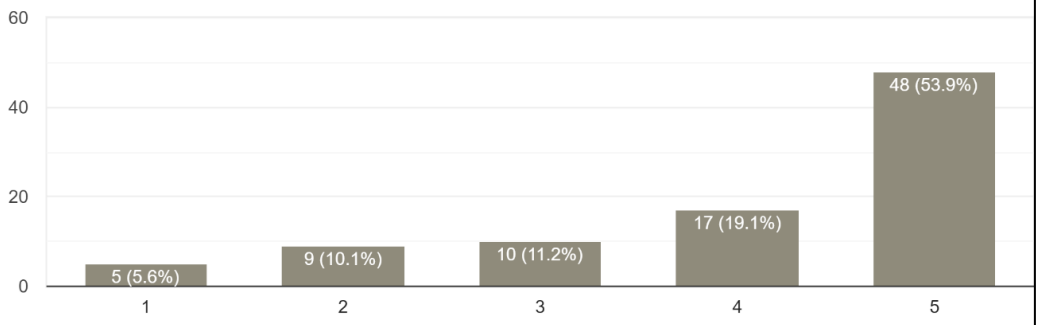
If India's Nuclear Doctrine is deterring Pakistan from using tactical nuclear weapons (TNW) against Indian forces in their soil, will India be justified to a massive nuclear retaliation?

89 responses



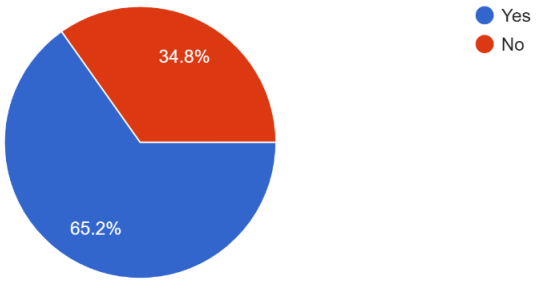
Will this statement in India's Nuclear Doctrine "In the event of a major attack against India, or Indian forces anywhere, by biological or chemical weapons,...s" justify a massive nuclear retaliation by India?

89 responses



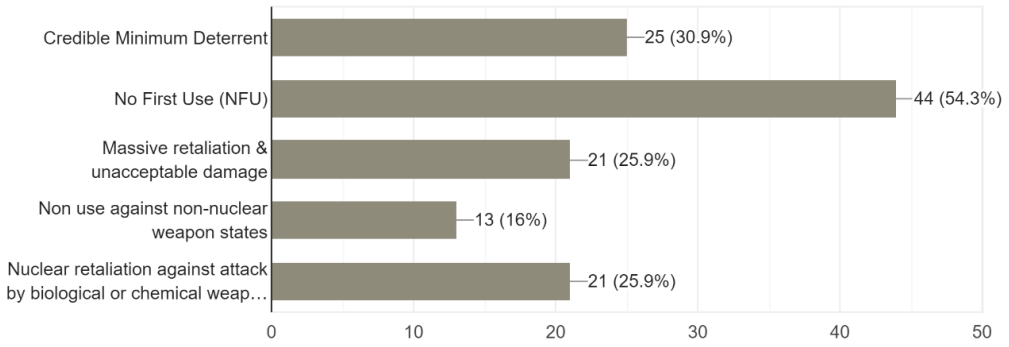
Do you observe any weakness or gaps in the present form of Indian Nuclear Doctrine?

89 responses



If there are weaknesses or gaps in the stated Indian Nuclear Doctrine, please indicate them from the following attributes

81 responses



Do you recommend revision of any other associated attributes in Indian Nuclear Doctrine, so to deter its nuclear neighbours?

75 responses