



Sociology & Cultural Research Review (SCRR)
 Available Online: <https://scrrjournal.com>
 Print ISSN: 3007-3103 Online ISSN: 3007-3111
 Platform & Workflow by: [Open Journal Systems](#)



Comparative Analysis of India and Pakistan Nuclear Doctrine

Aqsa Rasheed

M.Phil Scholar Dept of IR, Iqra University Islamabad

aqsa12swati@gmail.com

Hania Iqbal Khan

M.Phil Scholar Dept of IR University of Baluchistan Quetta

hkhaniakhan@gmail.com

Gulrukh Saeed

M.Phil Scholar Dept of IR, Iqra University Islamabad

Gulrukhsaeed000@icloud.com

ABSTRACT

This research paper presents a comprehensive comparative analysis of the nuclear programs of India and Pakistan, unraveling the intricate dynamics that have shaped their evolution and the ensuing impact on regional security. Since their simultaneous nuclear tests in 1998, both countries have embarked on distinctive paths in terms of doctrine, technology, and strategic postures, influencing the broader geopolitical landscape of South Asia. The study delves into the historical contexts that led to the nuclearization of India and Pakistan, examining the strategic imperatives and security concerns that prompted the development of their respective nuclear capabilities. By scrutinizing the doctrinal foundations, this research dissects the differences and similarities in their nuclear postures, including considerations of first-use policies, no-first-use doctrines, and the role of deterrence in regional stability. A key focus of the paper is a comparative modernization efforts undertaken by both nations. Furthermore, the research explores the regional implications of the comparative nuclear programs, investigating their impact on neighboring countries and the broader South Asian security architecture. By synthesizing insights from academic literature, governmental reports, this comparative analysis aims to provide understanding of the Indo-Pak nuclear programs. The findings contribute to the ongoing discourse on nuclear stability, arms control, and conflict resolution in the South Asian region.

Keyword: Indo-Pak Nuclear Program, Nuclear Rivalry, Nuclear Relations, South Asian Security Regional Security Implications, Nuclear Deterrence, Strategic Stability, Nuclear Posture

Introduction

Doctrine in international relations refers to the strategy or set of principals which signifies certain strategies and implementation of those strategies .this is linked to the preparation of war, waging of war and as well as controlling the war. This refers to the integration of policies and armament .Doctrine within the nuclear context refers to states official policy and guidelines regarding the use of nuclear weapon. It outlines the circumstances in which country would consider using nuclear weapon. In fact it is part of states military strategy .Different states have different nuclear doctrine depending on their national interest, strategic objective and their capability and credibility.¹Strong ideas about the function, goals,

¹ (Mazari, 2004)

and constraints of nuclear weapons, how those weapons fit into a nation's grand strategy, and a set of fundamental principles and concepts regarding the operationalization of the weapons to reflect a sensible balance of all these various aspects are the ideal foundations for nuclear doctrines. The greatest risk of nuclear instability arises from doctrines that show either a lack of strategic thinking or a strategic drift in how nuclear weapons are conceptualized within a nation's grand strategy, or from blatant inconsistencies between a state's nuclear weapons program and its security challenges. The ambiguity doctrine can be a source of major escalation, this is why states maximize the deterrent capability of nuclear weapons to escape from the paradox of nuclear use. Nuclear doctrines are much significant for war, peace and stability. Nuclear doctrine provides two major purpose one is to clarify the use of nuclear weapon to the leadership and military personnel, they identify the threat against which nuclear weapons are expected to be used. States that support nuclear doctrines theoretically aim to accomplish two things. First, they clarify where nuclear weapons fit into the overall plan for the leadership and relevant security personnel. They enumerate the threats against which nuclear weapons are expected to be used, the operational plans for countering those plans, the procedures and methods for deploying nuclear weapons for use in emergency and peacetime scenarios, and the command and control systems that will supervise their management. By creating a set of standard operating procedures for their handling in both peacetime and emergency situations. Furthermore, this has a broadly effect within the international community. The general work of nuclear doctrine is signaling adversary by highlighting threshold and redlines.²

In order to assess the stability of South Asia, it is important to compare the maritime doctrines of India and Pakistan. A crucial element of South Asia's intricate geopolitical terrain are the nuclear policies of both India and Pakistan. It is crucial to compare and analyze their nuclear policies as two close neighbors with a history of hostilities and tensions in the area. The goal of this study project is to disentangle the complex strategic stances, directives, and ramifications that both nations' nuclear doctrines include. Comprehending the nuances of the nuclear policies of India and Pakistan is essential for multiple persuasive reasons. First off, these countries' possession of nuclear weapons has far-reaching effects on both global stability and their immediate security concerns. These nuclear-armed neighbors face a considerable risk of conflict escalation, which makes a thorough examination of the tenets underlying their nuclear strategy imperative. Furthermore, examining the nuclear ideologies of India and Pakistan facilitates a more profound understanding of how nuclear deterrence has changed in the contemporary era. It is possible to distinguish the unique strategies that each nation uses to deal with security issues and counter possible threats by contrasting their different doctrines. This understanding is crucial for academics, decision-makers, and specialists in international relations who want to have a sophisticated grasp of modern nuclear dynamics. In addition, the examination of nuclear doctrines sheds light on India and Pakistan's overall strategic stances. It illuminates their security views, their aspirations for the region, and the place of nuclear weapons in their overarching defense plans. Deciphering these facets advances a more thorough understanding of the geopolitical forces influencing South Asia. A comparison analysis also becomes even more important as both nations continue to update their nuclear arsenals and improve their strategic stances. Monitoring

² (SHANKAR)

changes to their nuclear policies facilitates the anticipation of prospective changes in the balance of power in the region and contributes to the discourse on non-proliferation, arms control, and conflict resolution. Essentially, the goal of this research article is to further the scholarly knowledge of the complex consequences arising from the nuclear ideologies of India and Pakistan. It aims to present a comprehensive analysis that not only explores the nuances of the ideologies' strategic thinking but also sheds light on the larger implications for regional and international security by comparing and contrasting them. A concentrated investigation into the nuclear policies of India and Pakistan becomes necessary as the world attempts to manage the issues of nuclear proliferation and security. The nuclear ideologies of Pakistan and India exhibit concerning tendencies that contribute to the growing instability on the nuclear front. The persistent ambiguity in their doctrines, marked by a lack of explicit strategic clarity, introduces uncertainties. For instance, the absence of clearly defined red lines or thresholds for nuclear use raises questions about the conditions under which these nations might consider deploying their nuclear arsenals. Moreover, both countries have displayed an ambitious pursuit of nuclear capabilities, leading to the development of advanced delivery systems, such as ballistic missiles with varying ranges. This drive for technological superiority, while enhancing their deterrent capabilities, simultaneously fuels an arms race, amplifying regional tensions and adding to the challenges of nuclear stability. As a result, the interplay between ambiguous doctrines and technological advancements intensifies the risks of misunderstanding, miscalculation, and unintended escalation, emphasizing the pressing need for a comprehensive analysis of their nuclear programs.³

Background

In examining the comparative analysis of India and Pakistan's nuclear programs, it is essential to delve into the historical context that has shaped the development of their respective capabilities. The complex geopolitical dynamics in South Asia, marked by historical hostilities and conflicts, have significantly influenced the strategic thinking behind their nuclear doctrines

Pakistan's nuclear history:

Pakistan's nuclear program is motivated by its threat perception with regards to India conventional and nuclear military threats⁴. It developed its nuclear programs as a deterrence to India. The first step towards nuclear program was taken in 1953 by the establishment of an Atomic Energy Council (AEC) with a task of taking surveys for the radioactive minerals and working out a plan for establishment of institute of atomic energy in state. Then in 1954 atomic nuclear institute was formed consisting of two units' atomic energy commission and Pakistan atomic energy commission (PAEC). Then 1960 was the significant year of Pakistan's history this is because firstly nuclear program got new supporter Zulfikar Ali Bhutto, secondly Ishrat H. Usmani became the chairman of PAEC and in same year USA also provided Pakistan with aid to support Pakistan's first nuclear research reactor which then began operating in 1965. Then Zulfikar Ali Bhutto became the foreign minister and carried his interest in nuclear program and became the chief architect of Pakistan's nuclear program. He was of opinion that Pakistan's nuclear bomb will not be a defense line for Pakistan only but for entire Muslim world and Pakistan would be the first Islamic state to have the capability of nuclear bomb,

³ (SHANKAR)

⁴ (Iqbal, 2016)

then steps towards the nuclear program continued then in 1970 NPT was signed but Pakistan refused to become a signatory but Pakistan's nuclear programs progressed at a snail's pace due to lack of interest of Pakistan leadership. Then after the nuclear test of China Indian nuclear scientist Homi J. Bhabha's declared that India will detonate its nuclear device in 18 months this triggered debate in Pakistan as nuclear capability of India was concerning Pakistan's security. Then in 1970 general election Zulfikar Ali Bhutto used the nuclear issue for his election campaign. Then in breakup of East-West Pakistan the accusation of nuclear became pertinent for Pakistan security and for offsetting the conventional superiority of India in South Asia, then in this direction Bhutto asked officials to prepare a report on Pakistan's nuclear infrastructures. Then a meeting was held in Multan and scientist was invited to assure that government will not spare any facilities for this program. This is how Bhutto architected the Pakistan nuclear program. Then in 1972 Pakistani metallurgist A. Q. Khan started a job in Dutch engineering company which was a consultant and subcontractor for the ultracentrifuge method being developed by Britain, West Germany, and the Netherlands to enrich uranium. In the same year two nuclear scientists from Pakistan returned to Pakistan to start research on a theoretical project involving a fission explosive device. The scientists had been employed briefly at the International Center for Theoretical Physics (ICTP), in Italy. Further, in order to pursue the plutonium route to a nuclear weapons program, the Pakistan Atomic Energy Commission renounced plans to acquire a downgraded nuclear reprocessing facility from Britain and began talks with nuclear technology companies in Belgium and France regarding support in establishing nuclear fuel reprocessing facilities. Then in 1974 Pakistan signed a contract with France for nuclear processing plant and a team of nuclear scientist called Wah team began work for nuclear device. Despite the fact that Pakistan had finished more than half of the necessary preparations for a nuclear weapons program, India's nuclear device explosion on May 18, 1974, sparked Islamabad's whole nuclear plan. Pakistani Prime Minister Bhutto met with senior Pakistani officials to consider the ramifications of India's test. The very following day, on May 19, 1974, he refused to change his nation's prevailing policy and stated in a conference that Pakistan would not be intimidated by India's nuclear blackmail. Then in same year A. Q. Khan wrote a letter to Prime Minister Pakistan explaining his expertise then Zulfikar Ali Bhutto responded favourably he stated working with government for setting up of centrifuge plant. Then in 1975 government gave approval of 450 million nuclear program.⁵ Pakistan's nuclear program had gathered sophisticated uranium enrichment technology and knowledge by the late 1970s. Pakistan surpassed the threshold for weapons-grade in 1985 production of uranium, and it is believed to have generated enough weaponry by 1986 fissile components for nuclear Pakistan proceeded with its uranium enrichment program and gained the capability to detonate a nuclear bomb in 1987.⁶ On May 28, 1998, Pakistanis all across the world saw their first successful nuclear test. Pakistan was given a divine chance to remove its nuclear program from the shadow of uncertainty and assert its claim to equivalent capability and capacity it was a response to operation Shakti of India. When India decided to go nuclear. Pakistan's desire for "The Bomb" sprang from a single rationale: Indian nuclear could only be retaliated against by Pakistani nuclear by nuclear means.

⁵ (Singh)

⁶ (Iqbal, 2016)

Pakistan nuclear doctrine:

Pakistan has not yet declared its nuclear doctrine in written form but there is a available literature that what Pakistan elite or armed personnel's think in this regards ,which is based on the following assumptions

- Pakistan has a nuclear arsenal specifically aimed at countering India's supremacy in both conventional and nuclear weapons.
- As long as Pakistan possesses enough nuclear warheads and delivery means to inflict a deterrent penalty, its nuclear deterrence against India will remain intact. Pakistan should have powerful conventional troops to avert a nuclear weapons strike in the event that deterrence fails.
- Pakistan should not be lured into an arms race, but she must develop a secure, second strike capability.
- Regarding leadership and nuclear weapons, the Defense Committee of the Cabinet is discussed as the supreme body. The collegium of the nine Corps Commanders in the Pakistan Army, the Chief of that army and prime minister hold de facto control.
- The "TRIAD" concept is not likely to constitute the basis for Pakistan's nuclear weapons arsenal. Land-based ballistic missiles and aircraft will be the main components of the delivery system.
- Pakistani analysts believe that their ability to dissuade India would be undermined if they accepted any "Not First Use" agreement with India.

Pakistan has said that it might use nuclear weapons first if there's a regular fight with India, even if it's not a nuclear war. This idea has stopped India from hitting back strongly after events like the 2001 attack on India's Parliament and the 2008 Mumbai attacks, which India believes were supported by Pakistan. To make this threat more real, Pakistan has spent a lot on different kinds of small nuclear weapons. They have ones that can be dropped from airplanes and even a short-range missile called Nasr. Basically, this strategy is meant to make India think twice before doing anything aggressive, because they know Pakistan might use nuclear weapons even in a regular fight.⁷

India's nuclear history:

After the independence the first task Indian state did was to establish the Indian atomic energy commission. The aim was to be use it for peaceful means but Nehru said that we as a nation may use it for other purposes. The God-father of Indian nuclear program was Piara Singh Gill who had experience of working for USA nuclear program Manhattan project, he was appointed for nuclear program by Indian government in 1945. Then India acquired its first reactor in 1950's from Britain. Moreover more than 1100 Indian nuclear scientist were getting trained in USA under Atom for peace program. Then India acquired the CYRUS enriched uranium reactor from Canada. Then in 1970 NPT was signed but Indian retained from becoming signatory as it was already in work on nuclear program, then in 1974 it conducted its first nuclear test and called it peaceful nuclear test. A country like Pakistan as well as the entire region faced an even greater threat. Then in 1994 saw India conduct a Prithvi missile with a medium range. This served as an example of India's progress in developing missiles designed

⁷ (Dr Sidharth Kaushal, 2021)

specifically for Pakistan, which could deliver nuclear or conventional warheads to Pakistani cities. India placed its missiles close to the Pakistani border in June 1997. Then India did not test further but then in 1998 when India came to know about Pakistan's plan to conduct a test, India conducted five nuclear tests⁸ known as "Pokhran II"⁹. In 1998 after conducting the nuclear test, Indian president provided excuses to USA president Clinton that India was concerned to the geopolitical environment especially nuclear environment due to the nuclear state China which helped Pakistan to become nuclear state.^{10,11} Though India claims its nuclear program on threat perception of China's nuclear program but it was already in process before China's nuclear test in 1964, its nuclear program was motivated by desire to gain a seat in UNSC.

Indian nuclear doctrine:

India after conduction of successful test then made decision to develop a workable philosophy for a defensive, reasonable, cost-efficient, and effective deterrent system. After a little more than seven months of deliberation and talks, the nuclear doctrine drafting group—which was formed from the National Security Advisory Board (NSAB)—released a draft of the doctrine that may be implemented in both text and spirit. The National Security Advisory Board of India initially drafted the country's nuclear doctrine in August 1999 in response to the 1998 nuclear tests. The draft doctrine placed a strong focus on developing a credible minimum deterrence that is based on the ideas of a counterstrike capacity to cause unacceptable harm and a no-first-use policy. Nonetheless, the draft nuclear doctrine faced criticism for lacking clarity regarding its standing as a policy statement, as it was said to not constitute a settled policy but then government of India released a statement in January 2003 outlining the country's nuclear doctrine and operationalization objectives which was based on draft doctrine. The doctrine's basic tenets are as follows:

- **Credible minimum deterrent**
- **No-first-use (NFU)**
- **Effective command and control**
- **Unilateral moratorium on testing**
- **Global, verifiable and non-discriminatory nuclear disarmament**

Credible Minimum

India intends to establish a "credible minimum deterrent" that will be grounded in land, air, and sea capabilities. The deterrent will be grounded in the principle of massive retaliation, approved by the civilian leadership, against nuclear attacks on Indian forces or territory, but there is no quantity of nuclear weapons. Indian officials explain this as the deployment of assets which ensures its survival and capacity to respond in the form of retaliation or second-strike capability. Moreover, India has a set of rules about how it uses nuclear weapons, and one important rule was to have the minimum number of these weapons to prevent others from attacking. This is called "minimum deterrence." However, recently, there's a new missile called Agni-P that experts think might show India is moving away from this rule. Now, this missile seems to be designed not just to defend against attacks but also to go after the nuclear

⁸ (main, 2015)

⁹ (iqal, 2016)

¹⁰ (ANXIETY, 1998)

¹¹ (Clary, 2023)

weapons of other countries. This is called "counterforce capability." It's like saying, "We not only want to stop someone from attacking us, but we also want to directly target their nuclear weapons. "This change in strategy, if it's happening, could have big effects on how safe things are globally. It might make other countries nervous and could even lead to more competition in building and having more nuclear weapons, which is not great for overall safety. India might be changing its rules about nuclear weapons, and this change could make things less stable and more complicated for regional or global actors.¹²

No-first use

The nation will also adopt a no-first-use posture showing the defensive nature of Indian nuclear program¹³, meaning that it will refrain from using nuclear weapons against states that do not possess nuclear weapon. However, India possess the right to use it in retaliation to the attack on it by biological or chemical attack.¹⁴ The ideology makes it very evident that the only function of nuclear weapons is to dissuade potential users from threatening to use them. It declares that India will not launch a nuclear attack first but will instead launch a massive if deterrence is unsuccessful, reprisal. India's proclamation of the NFU after the May 1998 tests contributed to the country's reputation for strategic moderation. This obviously confers a great deal of diplomatic advantage. The NFU policy in New Delhi is an effort at exhibiting restraint and accountability. Second, a limited nuclear weapons program that does not include tactical nuclear weapons or a convoluted command and control structure is a financially sound option that offers a reasonably priced deterrent.¹⁵ Well India needs to review its nuclear deterrence as there are some ambiguities as such there is the issue of how to establish a "credibility" axis and calculate the quantity of nuclear weapons needed to provide "credible" deterrence. There is no set number or restriction on the quantity or type of India's nuclear weapons. This ambiguity is a feature of the nuclear policy since it gives India the freedom to build up its nuclear arsenal while taking its enemies' nuclear development strategies and tendencies into consideration. The main issue India is currently facing is the diversity of its nuclear neighbors, China and Pakistan, as well as the resulting perceptions of threat arising from these many geostrategic factors. Moreover, In order to prevent attacks on its territory using chemical and biological weapons, India decided to use its nuclear option. Nevertheless, despite the fact that these dangers are more obvious and have serious ramifications for nuclear deterrence and security, doctrines are silent on the nuclear-cyber interface and attack. Cyber threats continue to grow in sophistication, there is a need for comprehensive strategies that address the entire spectrum of threats, including those targeting nuclear capabilities. This involves enhancing cyber security measures, developing resilient command and control systems, and integrating cyber considerations into nuclear policy. The lack of clarity in doctrines regarding the nuclear-cyber interface raises concerns about potential escalation risks.

Command and control

In times of crisis, the ability to command and manage a nuclear force determines its effectiveness. The nuclear doctrine establishes a complex system of command and control.

¹² (Dr Sidharth Kaushal, 2021)

¹³ (Khanijo)

¹⁴ (Offic, 2003)

¹⁵ (kazi, 2014)

They provide the infrastructure needed to make a nuclear deterrence strategy work. The analysis, creation, and execution of plans all depend on an efficient command and control system. According to the nuclear doctrine, the prime minister would lead the National Command Authority and the highest political office's executive command would have the power to unleash nuclear weapons. It seems unlikely that anyone else could be in charge of the nuclear weapons given the structure of our constitutional government. This fully complies with the directives of the Indian PM.

Unilateral moratorium on testing

The scientific community in India was certain that the country's nuclear tests, which took place in May 1998, had been successful. They thought that India had capacity to create a credible deterrent. The Indian Prime Minister made a crucial statement to reaffirm India's commitment to international nuclear disarmament, he unilaterally imposed a stop to nuclear testing. Sixteen years later India conducted nuclear tests in May 1998. Some questioned the accuracy of the results, the Department of Atomic Energy (DAE) has transparently disclosed them, and the scientific community is convinced of India's nuclear weapons capability.

However, there's a debate about whether India's decision to voluntarily refrain from further nuclear testing (unilateral moratorium) is in its best security interest. Some argue that technology, especially in the military, keeps advancing, and India needs to stay prepared for future security needs. India's commitment to policies like No First Use (NFU) and minimum deterrence intensifies the need for testing. The effectiveness of India's deterrent posture depends on its credible communication of retaliation to potential adversaries. Despite the voluntary testing moratorium, it doesn't mean India has completely stopped testing. It signifies "utmost restraint" in testing, leaving room for a potential resumption if national interests face serious threats¹⁶.

Global, verifiable and non-discriminatory nuclear disarmament

This part of Indian nuclear doctrine states that it has taken a pledge towards disarmament but India on one hand talks of disarmament but on the other side it continues the modernization of its weapon and military strategies.¹⁷

Comparison on the nuclear doctrine of India and Pakistan:

1. India centric vs. wider perspective

Many variables, including as historical background, regional security dynamics, and international geopolitical concerns, influence India's nuclear doctrine and strategic outlook. India's nuclear doctrine is primarily aimed at protecting the country's security and intimidating possible enemies. While Pakistan, India's neighbor, is frequently linked to the immediate threat that India perceives, India's strategic view goes beyond South Asia to consider its increasing role in the international arena and the shifting picture of global security. India's strategic community recognizes that its security interests are not limited to South Asia alone. As India emerges as a major global player, its nuclear doctrine reflects a broader perspective, acknowledging the need to deter potential threats from multiple quarters, including outside the South Asian region. India hopes to become more involved in international politics. The nation's nuclear arsenal is seen as an instrument to strengthen its position as a responsible nuclear power. India wants to make sure that its strategic interests

¹⁶ (kazi, 2014)

¹⁷ (kazi, 2014)

are protected both internationally and within the context of South Asia. India is wary of becoming overly allied with any one power bloc and cherishes its strategic independence. The nuclear doctrine is a reflection of the goal to remain independent of regional concerns while making decisions.

On the other hand, Pakistan's nuclear perspective has traditionally been more India-centric. This is evident in its military doctrine, which emphasizes the role of nuclear weapons as a deterrent against perceived existential threats from India.

2. First strike vs. no first strike capabilities

The inclusion of the "No First Use" (NFU) policy in India's nuclear doctrine distinguishes it from the nuclear posture of certain other nations, such as Pakistan. India pledges under the NFU policy to never be the first to deploy nuclear weapons in a fight. The principle of deterrence forms the basis of the NFU policy. India hopes to lessen the likelihood of a nuclear battle and improve regional peace by making it clear that it will not be the first to deploy nuclear weapons. It is hoped that by making this pledge, enemies will be deterred from considering launching a nuclear first strike. By this policy India seeks to avoid any escalation.

On the other side there are strategic factors influencing Pakistan's reluctance to include a "No First Use" (NFU) policy in its nuclear strategy. In contrast to India, which has vowed to uphold the NFU concept, Pakistan continues to be vague about the conditions in which it would initiate the use of nuclear weapons. This is because the perceived conventional military disparity between Pakistan and India influences Pakistan's military policy. India's conventional military is bigger and more sophisticated technologically. Pakistan depends on its nuclear arsenal to prevent India from taking any hostile action since it lacks a comparable level of conventional capacity. Pakistan purposefully keeps the first use of nuclear weapons strategically unclear. This ambiguity is perceived as a means of maintaining uncertainty about Pakistan's threshold for nuclear use among rivals, especially India. Pakistan can respond to perceived threats with flexibility because there is no explicit NFU commitment. In order to maintain flexibility in responding to different events, Pakistan has chosen not to adopt an NFU strategy. Pakistan is able to customize its response according to the type and extent of the perceived danger, even to the point of using nuclear weapons if necessary, because there is no explicit NFU commitment. Pakistan thinks that uncertainty surrounding the first nuclear strike strengthens the case for nuclear deterrence.

3. Triad vs. not triad

India has a nuclear triad, whereas Pakistan has been concentrating on delivery systems that can be delivered by aircraft and land. The Nuclear Triad in India is founded on

1. Land-Based Missiles: India has produced a variety of ballistic missiles with a range that may carry nuclear bombs. This also applies to missiles such as the Agni. India can target strategically with these land-based systems.
2. Sea-Based Missiles (SLBMs): India has used submarines to construct the sea-based portion of its nuclear triad. Given that submarines are more difficult to find and attack, the sea-based component significantly increases the survivability of India's nuclear deterrent.
3. The Indian Air Force also possesses a fleet of strategic bombers. These planes have the capacity to carry nuclear bombs.

India's goal in having a nuclear triad is to make sure that, in the event that one or two of its deterrent's legs are broken, it may still use the remaining component or components to retaliate.

Whereas Pakistan has Limited Capabilities for Nuclear Delivery based on

- **Land-Based Missiles:** Pakistan has produced a range of ballistic missiles that are land-based, such as the Shaheen, Babur, and Ghaznavi series. The foundation of Pakistan's nuclear delivery capability is made up of several land-based systems.
- **Aircraft Delivery Systems:** Pakistan keeps a fleet of aircraft that are equipped to carry nuclear bombs. These consist of the F-16 and JF-17 Thunder platforms.

Pakistan's nuclear triad lacked a sea-based component (SSBNs). The emphasis has mostly been on delivery methods that are aircraft- and land-based. In contrast to a triad, this reliance on a small number of delivery systems compromises Pakistan's nuclear deterrent's overall adaptability¹⁸

Conclusion:

The Indian government provided what it claimed would be a clear, conclusive response when it decided to test nuclear weapons in 1998: "credible minimum deterrence." Nothing less would do, yet nothing more was required. However, as these authorities admitted even in the early years, there was a conflict between the two terms that characterized their nuclear way of thinking. In other words, the need for credibility would force the deterrent needs to rise above a bare minimum of armaments. That was the tough part: how much. Twenty five years later, as they continue their quest for the credibility, Indian decision makers have yet to come to the conclusion that they achieved the minimal requirements for deterrence. The Indian arsenals are gradually and steadily being modernized in terms of quality and quantity. BJP Indian party in their election campaign of 2014 disclose that they would change the Indian nuclear doctrine to meet the new challenges, might be pointing to counter the tactical nuclear weapons of Pakistan.¹⁹ With nuclear tests conducted in 1974 and 1998, the building of a fissile material stockpile, and the development of nuclear weapons delivery systems, such as short- and long-range ballistic missiles, India has militarized its nuclear program. The pursuit of three delivery systems, such as multiple warhead missiles and ballistic missile submarines, implies that India is emulating the US, Russia, Britain, France, and China. Additionally, India is pursuing military capabilities for missile defense and anti-satellite. When considered collectively, these trends point to India's pursuit of strategic capabilities to place it more widely on par with China and at the very least on par with that country. The US has promised to help India become a more powerful and reliable long-term strategic ally.²⁰ India has been accumulating uranium and plutonium, according to the reports IPFM as of 2013 India possess 500kg of uranium.²¹

Similarly Pakistan in an effort to counterbalance India's far greater conventional military, economic, and political might, Pakistan developed nuclear weapons. Pakistan has depended on a network of illegal nuclear technology purchases and substantial direct support from

¹⁸ (Kapila, 1999)

¹⁹ (rajagoplan, 2016)

²⁰ (main, 2015)

²¹ (main, 2015)

China to attain strategic parity with India. It is said to have the state's fastest expanding nuclear weapons stockpile of any nation. In the course of this endeavor, Pakistan is shifting from aircraft-delivered nuclear bombs to nuclear-armed ballistic and cruise missiles, as well as toward a larger dependence on lighter and more compact plutonium-based warheads. Pakistan has been obstructing negotiations towards an international convention that would prohibit the manufacturing of fissile material for nuclear weapons in order to maintain its nuclear program. The possibility of a far stronger US strategic partnership with India, fueled by US strategy of pursuing India as an ally to offset the growth of China as a possible great power challenger, is currently fueling Pakistan's nuclear program. This is a longer-term issue.

References

- ANXIETY, N. (1998, 5 12). *The newyork times*. Retrieved 12 30, 2023, from <https://www.nytimes.com/1998/05/13/world/nuclear-anxiety-indian-s-letter-to-clinton-on-the-nuclear-testing.html>
- Clary, C. (2023, 10 30). *arms control association* . Retrieved 12 2023, from arms control association : <https://www.armscontrol.org/act/2023-10/features/twenty-five-years-overt-nuclear-india#endnote01>
- Dr Sidharth Kaushal, J. B. (2021, 07 08). India's Nuclear Doctrine: The Agni-P and the Stability–Instability Paradox. *RUSI*. Retrieved 1 2, 2023, from <https://rusi.org/explore-our-research/publications/commentary/indias-nuclear-doctrine-agni-p-and-stability-instability-paradox>
- iqal, k. (2016). Pakistan's Nuclear Program. *pluto journals* , 12. Retrieved 1 1, 2024, from <https://www.jstor.org/stable/10.13169/polipers.13.1.0025>
- Kapila, D. S. (1999, september 15). *India and Pakistan Nuclear Doctrine: A Comparative Analysis*. Retrieved 1 2, 2023, from https://www.ipcs.org/comm_select.php?articleNo=260
- kazi, R. (2014). India's Nuclear Doctrine: A Study of its Tenets. *Indian Foreign Affairs Journal*, 9. Retrieved 1 1, 2023, from <https://www.jstor.org/stable/45340950>
- Khanijo, *. R. (n.d.). does india need to revive its nuclear docorine. *USI*. Retrieved 12 30, 2023
- main, z. (2015, 2 17). Nuclear programs in India and Pakistan. Retrieved 12 2023, from <https://doi.org/10.1063/1.4876466>
- Mazari, S. M. (2004). understanding Pakistan's Nuclear Doctorine. *strategic studies*, 24. Retrieved 12 29, 2023, from <http://www.jstor.org/stable/45242536>
- Offic, P. M. (2003, 1 1). *Prime Minister's Offic*. Retrieved 12 30, 2023, from Prime Minister's Offic: <https://archive.pib.gov.in/archive/releases98/lyr2003/rjan2003/04012003/r040120033.htm>
- rajagoplan, r. (2016, 06 30). *carnegieendowment*. Retrieved 12 30, 2023, from <https://carnegieendowment.org/?lang=en>: <https://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950>
- SHANKAR, M. (n.d.). Nuclear doctrines and stable strategic relationships: the case of south Asia. *Oxford University Press*, 92. Retrieved 12 29, 2023, from <https://www.jstor.org/stable/24757832>
- Singh, R. (n.d.). Foundations of Pakistan's Nuclear Programme. *Pakistan Institute of International Affairs*, 70, 99-112. Retrieved 12 30, 2023, from <https://www.jstor.org/stable/44988314>

SCRR