

India's SSBNs: Deterrence or Risk, Regional and Beyond?

Murad Ali ^{1*} Nawal Nawaz ²

¹ Research Officer, Center for International Strategic Studies, Islamabad, Pakistan.

Email: muradali@ciss.org.pk

² Research Assistant, Center for International Strategic Studies, Islamabad, Pakistan.

Email: nawalnawaz999@gmail.com

ABSTRACT: India's SSBN program does not bode well for the security calculus of the Asia-Pacific region. The security architecture of South Asia is fundamentally different from that of the Cold War era. During the Cold War, the two competing powers, the U.S. and the USSR, were geographically distant from each other. This lack of proximity between their strategic centers reduced the chances of crisis instability, miscalculation, and escalation crisis. In contrast, South Asia's geographic contiguity, particularly between India and Pakistan, places their strategic centers in close proximity, significantly increasing the risk of crisis instability. India's sea-based deterrent poses serious concerns for the region for two main reasons. First, the independent command and control system of SSBNs raises the issue of pre-delegation, especially if communication between the SSBNs and political leadership on land breaks down during a crisis. In such a scenario, it is unclear whether the SSBNs' autonomous command and control system would be capable of accurately interpreting the situation. Second, India's SSBNs, armed with sea-launched ballistic missiles (SLBMs) with intercontinental ranges, not only trigger an arms race within South Asia but may escalate strategic competition beyond the region. This research paper tries to critically discuss India's sea-based deterrence under the shadow of its touted no-first-use policy. India's doctrinal shift from countervalue second strike to counterforce stance, considering its SSBNs development. Moreover, the ranges and capability of India's SLBMs will be discussed through the lens of India's pursuit of prestige, and global strategic ambitions.

KEYWORDS: Deterrence, Strategic Stability, Countervalue Strike, No-First-Use, Doctrinal Shift

Introduction

The evolving strategic landscape of the Indian Ocean Region has widespread implications for the security of South Asia. The security dynamics of the region have primarily been shaped by the two nuclear-powered states: India and Pakistan. As bordering states, India and Pakistan have involved in a decades-long dispute over Kashmir, their rivalry remains central to regional instability. India consistently attributes militancy in Kashmir and mainland India to Pakistan-sponsored elements and has conducted military action against Pakistan (Wueger, 2016). This has led to multiple military stand-offs along the international border, one quite recently in May 2025, and another after the Pulwama attack in 2019.

Pages: 161 – 170

Volume: 5

Issue: 1 (2026)

Corresponding Author

Murad Ali

✉ muradali@ciss.org.pk

Cite this Article: Ali, M., Nawaz, N. (2026). India's SSBNs: Deterrence or Risk, Regional and Beyond?. *The Regional Tribune*, 5(1), 161-170. <https://doi.org/10.55737/trt/v-i.214>

In both incidents, India attempted to violate the international border. In 2019, India carried out an aerial attack in Balakot. The following day, Pakistan retaliated with an aerial strike and shot down an Indian two fighter jets (Kazmi, 2025). The pilot was captured and then returned to India the next day. Similarly, the Indian missile attacks on the Pakistani city of Bahawalpur, which resulted in the deaths of many innocent civilians, stemmed from the Pahalgam attacks. Pakistan's response was equally assertive and reciprocative, neutralized India's S-400 air defense system at Adampur, shot down six fighter jets including Rafales, and compromised the BrahMos missile depots at Bias. The stand-off lasted for around six hours and brought the two nuclear powers to the brink of destruction.

India was aggressively pursuing its ambition to assert itself as a regional hegemon, while Pakistan was defending its position as a sovereign nuclear power. India's actions were destabilizing the deterrence equilibrium in South Asia, whereas Pakistan was striving to restore it at any cost. It is a proven fact that India's defense posture and military modernization are driven by its aspiration to dominate South Asia. The Modi regime is crystallizing the Indian state apparatus around the notion of Hindu supremacy, aiming to establish a Hindu-led order not only within India but across the entire South Asian region.

The external patronization in the defense domain is another factor that guides India's reckless and revocable actions in the region. U.S. defense ties with India have emboldened and reassured India's defense and military prowess. The U.S. has granted India a number of favors, including a waiver in the NSG group, membership in the MTCR, and the signing of defense pacts such as BECA and COMCASA (Kakar & Barech, 2025). India has been tactfully leveraging the U.S.'s perception of New Delhi as a strategic pivot to counterbalance China. However, India's military advancements are clearly directed at suppressing Pakistan, considering its behavior and force posture over the past decade. Similarly, With the procurement of nuclear-powered ballistic missile submarine (SSBN), India is trying to gain military prestige in the Indian Ocean Region.

Initially, India acquired SSBNs from Russia, the Akula-class, which operated in Indian waters for fifteen years. In 2016, India commissioned its first indigenously developed SSBN, the Arihant-class INS Arihant, which became fully operational in 2018. India's SSBN program is guided by strategic objectives (Khan, 2023). The fundamental motive behind acquiring SSBNs is not only to counter the rise of China but also to threaten Pakistan within the region. Pursuing sea-based deterrence equips India with second-strike capability and completes its nuclear triad, comprising land, air, and sea-based delivery systems (Rehman, 2012). Historically, the Indian had long interested in maritime dominance, acquired its first submarine in 1967 from the Soviet Union. India used that submarine as a part of naval operation in 1971 war against Pakistan.

India had been long interested to acquire the nuclear maritime propulsion technology. In 1968, navy engineers were sent abroad for training in nuclear sciences which resulted in the creation of team of naval engineers (Perkovich, 2002). Those engineers were assigned to the department of Atomic Energy's Bhabha Atomic Research Center to research on naval nuclear propulsion technology, and were also sent to Soviet Union to develop naval nuclear propulsion (Department of Atomic Energy, 1966). This is one way to suggest that Russia is one of the key drivers behind the India's naval reactor project. As per one account, several Russian engineers were sent to India to assist the Department of Atomic Energy (DAE) and the Defense Research and Development Organization (DRDO) (Abraham, 1998). Moreover, Russia had supplied to India all the needful technologies such as vital designs, precision equipment based on their VM-5 reactor, and the technology of miniaturizing the reactor. It has been endorsed by the former Indian Chief of Naval Staff that the main source of technology for the nuclear submarine project was Russia (Ganguly, 1999).

In 2003, India successfully went critical its first land-based submarine nuclear reactor prototype. The INS Arihant was the first nuclear submarines to be designed and built in India, which was launched in July 2009, and whose

reactor became critical in 2013. The Arihant was then commissioned in 2016, after having passed “sea acceptance trial” as early as in 2014. Along with INS Arihant, India had deployed nuclear attack submarine INS Chakra, which the Indian navy has leased for ten years in 2012 from Russia (Chengappa, 2002). In order to continue with its sea-deterrence race, India government in February 2015, has approved the construction of six nuclear-powered attack submarine, which would have an estimated cost of around one trillion Indian Rupees. India has launched on 26 October its fourth SSBN with a codename S4* (Karnad, 2002). Defense minister Rajnath Singh while inaugurating the low frequency naval base, announced the development (Ali, 2019). This would be the fourth SSBNs with 7000 ton of displacement capacity and can carry the K-5 missiles which can reach the target at 5000km range. India's indigenous modernization of its navy reflects its strong reliance on maritime power as a deterrent capability. Indian Naval Chief said that the strength of any nation's navy lies not only in its ships but in its ability to build them. With this notion India is modernizing its naval power indigenously quite fast, seamlessly picking pace with China and other great powers. India's ambitions of deploying both nuclear attack submarines (SSNs) and nuclear-powered ballistic missile submarines (SSBNs), are shaped by its attempt to establish nuclear deterrence in the region and beyond.

The focus of this research paper not only discusses the relevance of SSBNs to India's strategic need, but also examines the range and capabilities of Indian SLBMs (Sea-Launched Ballistic Missiles), which can now reach the targets up to 6,000 km. The upcoming K-series missiles are projected to hit targets as far as 12,000 km, reflecting India's broader global strategic ambitions. Furthermore, India's stated no-first-use policy comes under scrutiny as SSBNs operate under an independent command and control system during times of crisis and indicates its readiness for counterforce strikes.

Deterrence Theory and Nuclear Deterrence at Sea

Deterrence theory is concerned as the cornerstone concept in International Relations. It is covered in the perception that threats prevent adversaries from taking unwanted actions. Deterrence aims to maintain stability by convincing enemies that the costs of aggression outweigh the potential advantages (Kampani, 2014). It was initially concocted during the Cold War to oversee nuclear stand-offs, and ever since has evolved to address the ranges of threats in the international system. Deterrence theory surface in response to nuclear proliferation in the mid-20th century, with contribution from political scientists and strategists such as Thomas Schelling and Bernard Brodie (Mian et al., 2019). According to Schelling, peace can be achieved not by disarmament, but by ensuring that the costs of the attack are miserably high. Schelling work stressed the significance of credible threats, stating that the credibility of deterrence lied in adversary's perception that retaliation would be devastating and certain. Effective deterrence must carry certain features such as credibility, capability and communication. During the cold war, deterrence theory was the basis of the great powers (US., Soviet Union) nuclear strategy, where both powers avoided direct confrontation by assuring mutual assured destruction (Schelling, 2021).

The land-based and air-based nuclear arsenals are believed to be vulnerable to adversary's first strike following the growing development in missiles technology. Since 1952, when the first thermonuclear devise detonated, the US nuclear scientists alarmed by the Soviet Union first nuclear strike (Brodie, 1992). The solution was devised theoretically to secure second strike capability that would drive deterrence by punishment. Since the preemptive strike could markedly destroy the enemy's nuclear force before the adversary's respond, the first strike could remain as viable option for the strategists (Mueller et al. 2006). The only way to maintain the strategic stability was to assure the credible second-strike capability. With assured second-strike capability, the cost of eroding the country nuclear assets with first counterforce strike was too big, and not so easily feasible (Huth & Russet, 1988).

Bernard Brodie stated in “Strategy in the Missile Age” (Brodie, 1988) that nuclear submarines equipped with Polaris missiles would seem to be a viable support to land-based force, and maintained that submarines are hard to detect and hence difficult to hit in a counterforce strike, making them enable to retaliate in the event of a first strike. Thomas Schelling while discussing the likelihood of arms control, emphasized the significance of stabilizing deterrence, stating that both sides mutual interest in subsiding the benefit of first strike, as that benefit enhances the possibility of war (Pant & Joshi, 2018). Second strike capability is smoothly achieved only by the sea-based nuclear weapons, for that matter the nuclear assets had to be hardened enough so not to be destroyed or they had to be concealable on mobile so that they could be difficult to find (Ramana, 2012). Both land-based and air-borne nukes showed high frequency of vulnerability to the first strike. A better option that seemed to be viable and more secure was SSBNs, as it remained submerge which made them difficult to detect. In 1959, United State deployed its first SSBN, USS George Washington. Similarly, by 1988, the US had around 36 operational SSBNs, while the Soviet Union had 77 (Cote, 2019).

Unlike the early cold war nuclear strategists who generally adopted that the SSBNs provided an assured second-strike capability that reduced incentives for the first strike, the nuclear scientists in the 1980s era concluded that the submarines engendered potential causes for crisis instability and arms race. Barry Posen argued in his article “inadvertent nuclear war? Escalation and NATO’s Northern Flank” that the naval exercises in the surrounding of a Soviet SSBNs ambit could create escalatory signals (Morgan, 2008). It reflects that the uncertainty of situation could be misinterpreted into an inadvertent escalation. It is quite naïve to compare the security calculus of South Asia with that of the Cold War-era United States and Soviet Union. They are starkly different for many reasons, the most significant being the geographical contiguity of the competing nuclear powers in South Asia—something that was absent between the Cold War rivals. The India’s SSBN program has been inspired from the Cold War era, and therefore the India’s latest maritime strategy has eluded its SSBNs program to the Cold War in the document “Enduring Secure Seas; Indian Maritime Security Strategy”, which was released in October 2015 (Morgan, 2008).

India-Sea Based Deterrence

The journey of India’s efforts for nuclear submarine is as long as its pursuit of nuclear power. The India’s Atomic Energy Establishment started the program as back as in 1965 with a feasibility study on maritime propulsion. The program was overseen by Dr. Homi Bhabha, the father of India’s nuclear-energy program (Lyndon B. Johnson Presidential Library, 1965; Morgan, 2008). Previously, in November 1954, Bhabha presented his thirteen points roadmaps for the development of nuclear propulsion for ships and aircraft to the then Prime Minister Jawaharlal Nehru, which was considered as a great avenue for research and development (Nehru Memorial Museum and Library, 1954). This visualizes India’s long-standing quest for the nuclear submarines. However, during the lifetime of Bhabha India nuclear propulsion program did not come to fruition due to financial and technological constraints (Brands, 2006). Following the death of Homi Bhabha, the India’s Atomic Energy Program was then headed by Dr. Vikram Sarabhai, who kept struggling for the India’s submarine program. He also conducted the feasibility study on naval propulsion and presented a report to the then Prime Minister in 1970. The report endorsed to setting up a prototype reactor on a model of the United States and the United Kingdom. This early foundational work set the ground for India’s more recent strides in developing its own nuclear-powered submarine (Patel, 2025).

Historically, the advancement of the Indian submarine force had gained momentum in the 1980s and 1990s. During this period, India not only acquired HDW (Howaldtswerke-Deutsche Werft) 1500-class diesel electric submarines from Germany but also outsourced eight kilo-class diesel electric submarines from the Soviet Union. Specifically, India’s iteration of nuclear submarine triggered off following the commissioning of INS-Chakra; a nuclear attack submarine (SSN) from Russia in 1988 (Ali, 2025). This provided the Indian Navy to equip with the

upkeep and operation experience of nuclear submarine. Likewise, in 2012, India commissioned the second outsourced SSN, INS Chakra II, from Russia for the time period of around a decade. This development cemented the way for India's indigenous struggles to make SSBNs (Ali, 2025).

With the induction of INS-Arihant and INS Arighaat, the Indian maritime power is on the edge of an important trajectory in its race for a strong nuclear triad. The INS Aridhaman, the latest variant of Arihant class, is the third SSBN, set to induct later in 2025 (Ali, 2024). The Arihant class submarines manufactured by the Indian's clandestine Advanced Technology Vessel (ATV) project, which demonstrated India's local venture into SSBN (Roche, 2019). The INS Arihant was inducted in 2016, India's first locally developed SSBNs, marked as the first nation to build SSBNs indigenously other than the five permanent members of the United Nation Security Council (UNSC) (Perkovich, 2002). It was followed by the INS Arighaat which was commissioned in August 2024, after passing sea trials. The INS Aridhaman, codenamed S4, listed as the third in the series and is slated to be commissioned into the Indian Navy by the end of 2025. It has demonstrated an updated features against its predecessors, INS Arihant and INS Arighaat. Similarly, the Indian government has sanctioned a project to produce six nuclear attack submarines (SSNs). In the same way, India's naval modernization is indicative of its ambitions to attain strategic deterrence at global level. India's growing nuclear submarines fleet highlights its broader aspirations.

The inception of India's nuclear submarine program portrays two strategic goals. First, it reveals the India's interest in gaining deterrence not only in the region but also beyond the region, considering the ranges of SLBM with which these SSBNs are equipped with (Akhtar, 2025). It was even the desire of Prime Minister Indira Gandhi who initiated the nuclear submarine program that acquiring nuclear submarine would give India invincible capability to carry out nuclear strike. Second, through SSBNs, Indian navy tends to dominate the Indian Ocean (IO), keeping in view the maritime propulsion as a source of exercising sea-denial strategy against the adversaries in the (IO). It seeks to establish sea-control over all sea lane of control (SLOC), taking from strait of Hormoz to the strait of Malacca (Akhtar, 2025). Traditionally, the nuclear posture of India is rested on three principles such as the policy of no-first-use (NFU), the credible minimum deterrence, and the civilian control of the nuclear arsenal. The concept that the nuclear submarines (SSBNs) offer the credible second-strike capability, has perceived as the India's credibility of its NFU posture by the Indian nuclear strategists (Pandit, 2024). However, this notion is not well grounded, as acquiring sea-based deterrence, India is tending to go for the counterforce strike capability. Since the cold war era deterrence theory hold meager relevance to South Asia, India's SSBN program could generate a new spell of crisis instability with Pakistan, as the latter does not carry with credible second-strike capability. It would likely propel arms race in the region in the light of anti-submarine warfare (ASW), submarine drones and other additional maritime capabilities.

Exploring India's SSBN Fleet: Strength and Range

Currently, New Delhi operates two SSBNs: INS Arihant and INS Arihaat. The INS Arihant was officially commissioned in 2016 by the admiral Sunil Landa, Chief of the Indian Naval Staff. It is India's first indigenous nuclear-powered ballistic missile submarine (SSBNs). INS Arihant, codename S2, has four missiles' tubes fitted with the medium range K-15 nuclear missile. The Arihant SSBN is said to be a 6,000 ton with a length of 110 meters (The Times of India, 2024). The vessel is capable to carry 12 K-15 Submarine Launch Ballistic Missiles (SLBMs), that can be hit target as far as 700 km. It has small and shorter hull with unique design and holds only four missile silos. K-15, Sagarika, has a range of 700km, and is propelled by a propellant solid motor. It can carry payload of highly enriched nuclear warhead of 500 to 800 kg. K-15 had undergone successful test from Arihant submarine in 2018 and deployed later on. India assumed K-15 as a viable option for tactical counterforce strike against Pakistan due to close proximity to Pakistan border (Times of India, 2024).

INS Arihant is followed by the Indian second SSBN, INS Arighat so called S3. It is powered by 83 MW pressurized water reactor (PWR), which added to its efficiency and performance. The advanced reactor model not only enhances its operational capability but also make it difficult to detect by adversary's sonar system. The induction of INS Arighat demonstrates a highly innovative model of its predecessor, INS Arihant, particularly with regard to its propulsion, stealth, and electronic warfare capabilities. It has a maximum speed of 24 knots. It has four launching tubes, capable of carrying four K-4 SLBMs, which can hit the target to range of 3,500km. Similarly, it can also hold 12 K-15 missiles.

The K-4, also refers as Kalam-4, is an SLBM, was manufactured by India's Defense Research and Development Organization (DRDO). K-4 enhances Indian second-strike capability. It is around 12 meters long and 1.3 meters wide and had 17 tons weigh. It is capable to carry warhead of around two tons. With regard to its efficiency, it uses inertial navigation system supported by GPS/NavIC satellite guidance. It has circular error probability (CEP) of lower than 10 meters, which marks its precision strike capability. Hans Kristensen mentioned in the Bulletin of Atomic Scientist, that the K-4 missile is replicated the Agni-III Intermediate-Range ballistic missile (IRBM). It can hit any part in Pakistan and some parts in China from the northern Bay of Bengal. This latest test reveals India's growing development of its nuclear submarine fleet.

INS Arighat will be followed by INS Aridhaman (S4). It is about to complete its sea trial. INS Aridhaman is 7,000-ton vessel, an advanced variant of Arihant class, which is expected to be commissioned by the end of 2025. The development of INS Aridhaman demonstrates substantial modification compared to its predecessor, INS Arihant, and INS Arighat. One significant enhancement in INS Aridhaman represents its capability of carrying large number of missiles. Unlike its predecessor, which have four vertical launch system (VLS) tubes, it has eight VLS tubes. It can carry around 24 K-15, and 8 K-4 missiles (The Times of India, 2024). It can also carry K-5 missile which is under development. The induction of INS Aridhaman is perceived as India's persistent effort to counterbalance the peaceful rise of China and threatens Pakistan. The integration of K-15, K-4, and the upcoming K-5 with the advance class submarine INS Aridhaman indicates that India strategic ambitions are not just bounded to South Asia but also far beyond the region.

K-5 missile has a predictable range of around 6000km and is expected to exceed its range up to 8000km. With this missile range, India can hit targets easily in major part of the Asia-Pacific region, Europe, Africa and notably the US Pacific Islands territories. The K-5 has been developed by the India's DRDO (The Times of India, 2024). The extended range of K-5 can reach to China's Industrial heartland and military bases in the South China Sea. It can carry warhead of around 1000 to 2000 kg, with multiple independently targetable reentry vehicles (MIRVs). Similarly, like China, K-5 can reach NATO's eastern peripheries and Russia's southern part. It is considered as India's technological milestone and a big step toward achieving its credible minimum deterrence. The K-5 development is not just relevant to its pay load, but it demonstrates India's doctrinal shift from regional deterrence to intercontinental goals. India is also planned to develop the K-6 SLMB which is projected to reach up to 12,000km. This would further cement the India's global strategic ambition. It calls for the international oversight to curb the proliferation and ensure adherence with global arms control arrangements (Foye, 2022). The system such as K-5, and K-6 to militarize the maritime zone, adds to the already perplex strategic calculus in South Asia. It already puts a dent on regional arms race. Pakistan has meager resources compared to India, would compulsively struggle to counterbalance India's SLBM capabilities. These capabilities have already question India's commitment to arms control particularly among neighboring states. India's growing advancement in missiles and submarines technology would negatively impact Pakistan's strategic behaviors and its commitment to international arms control norms. Therefore, these Indian missile systems have undermined the fragile arms control atmosphere in South Asia (Kunde, 2025).

Deterrence or Dangerous

The acquisition of SSBNs by India might offer credible second-strike capability and prevent its adversary from attacking counterforce strike on its nuclear assets. This could be a plausible reason of maintaining credible deterrence. But keeping in view the South Asia security context which is diametrically different to the cold war security calculus, the SSBNs by one nuclear power state is likely to promote arms race in another nuclear power country. This would be a dangerous story if the launching of SSBNs by India enhances the conventional and strategic arms race in South Asia. In the context of India and Pakistan dyad, nuclear arms race stems from conventional and sub-conventional attacks, which leads to nuclear exchange rather than a nuclear first strike. Considering this fact, the Indian SSBNs do not establish deterrence against Pakistan (Pandit, 2024). India is threatened from the non-state actors while Pakistan is concerned with the India's growing conventional superiority. Acquiring SSBNs is not likely to subside each states anxiety. Thus, sea-based deterrence in no way causes deterrence stability.

Secondly, the development of strategic and conventional maritime arsenals might have deadly implications on crisis stability, primarily if they face technological glitches or failure in command-and-control network (Feaver, 1993). Nuclear submarines are quite hard to find and attack; therefore, they are considered to be the most reliable and survivable. Regulating the nuclear warheads on SSBNs are difficult to manage for the two reasons. First, the nuclear warheads must be mated with the missile before the SSBNs leave the harbor for patrolling, unlike the land and air-borne warheads which are separated from the missiles in order to avert accidents. Second, the command-and-control system of SSBNs hinges on its communication with strategic command force on land (Tellis, 2002).

There are two command and control issues pertaining to this debate. One is the "always-newer-dilemma" and the other is maintaining communication with SSBNs. The "always-never-dilemma" insinuates the challenge that nuclear weapons are ready to launch and can never be used by unauthorized command. Second, for nuclear submarines, uninterrupted communication is not safe because communication make the submarines easily detectable. During communication failure particularly in crisis situation, how the SSBNs force would respond, if the political leadership fail to communicate with SSBN? The issue of pre-delegation arises in the event of a crisis, when C2 code disrupts, such as very low frequency (VLF) station failures, impede communication between SSBNs on patrol and the Strategic Force Command on land (Joshi, 2019).

India's command and control system highlights one of the most alarming aspects of its growing nuclear arsenal. There are number of nuclear theft and security lapses stories attribute to the Indian nuclear history, which have plagued India's nuclear program for years. The infamous case of 2004, where uranium was dislocated from the nuclear facility in India, demonstrates a bleak reminder of the weakness within system (Gupta, 2024). Nonetheless, there are slight evidence to prove that India has sufficiently settled down these security loopholes. The integration of SSBNs into naval fleet, with their independent command and control system and complicated operational mechanism, enhances these risks. The likelihood of miscommunication and unauthorized command, stands as a more pressing concerns when number of SSBNs each armed with nuclear weapons, are patrolling at sea. The risk of unauthorized attack cannot be overlooked, considering the independent command and control nature of SSBN as well as the India's bleak record of nuclear security lapses. It is recipe for annihilation.

Implications: Regional and Beyond

The recent integration of INS Arighat and the upcoming commissioning of INS Aridhman as well as their capability to carry long range missiles such as K-5 SLBM, signifies seismic shift in India's nuclear policy. It demonstrates India's continuous efforts to enhance its counterforce as well as countervalue strikes capability. This development exacerbates the already fragile strategic balance in the region. It also puts huge stress on Pakistan to counterbalance which would trigger a new spring of arms race in the region.

India's growing sea-based deterrence inexorably pushes Pakistan to reevaluate its own strategic posture. Pakistan, has traditionally maintained fewer but credible nuclear deterrent, might acquire the strategic submarines or pursue other ways to counter the imminent threats from India's maritime posture (Brahya, 2025). This could happen into deploying large number of tactical nuclear weapons or improving the efficiency and range of its missile network. Consequently, this would heighten the arms race, culminating into a capricious and erratic security environment in South Asia. Similarly, the induction of India's SSBNs delipidates crisis management and escalation control.

In the event of crisis situation or severe diplomatic deadlock, the existence of these submarines at sea could germinate new vectors that could harbor miscalculations. Case in point, if a country misjudges the mobility of the adversary's SSBN as an attempt for nuclear strike, it could engender a preemptive retaliatory response. There is so little room for error, the risk of serious consequences is alarmingly high.

Similarly, India's development of K-5 and the K-6 SLBM indicates its global ambitions for achieving prestige and international strategic posture. These missiles, with intercontinental ranges, and integrated MIRVs system, demonstrates India's strategic shift from being a regional deterrent to a global deterrent state (Brahya, 2025). The US-Indo strategic partnership, primarily stems from the Indo-Pacific Strategy, enables India to benefit from the Nuclear Supplier Group and the Missile Technology Control Regime (MTCR). As a member of MTCR, India has gained access to the latest missile technologies, which has significantly enhanced its missile program with global impacts. The US is continuously keeping oblivious of India's development in South Asia. Ignoring India's nuclear capable missiles of global reach, could be strategic lapse on part of the US (Gupta, 2024).

The international community should reevaluate the India's SSBN program, as the development of these submarines program not only threaten the regional deterrence balance but also sets a precedent for other countries. Additionally, the global reach of India's missile system warrants serious notice by international community. Along with Pakistan, China is also cautious of India's growing maritime development, might enhance its SSBN fleets as well as its anti-submarine warfare capabilities, harboring to an unabated arms race in the Asia-Pacific region.

Conclusion

This research paper outlines three main scenarios. First, India's growing arms buildup, both conventional and non-conventional, along with the acquisition of strategic submarines and the enhancement of missile systems, demonstrates India's doctrinal shift from a "no-first-use" policy to a "first-use" stance. With these capabilities, India is transitioning from a countervalue second-strike state to a counterforce first-strike state.

Second, this rapid improvement in military capabilities reflects India's regional as well as global ambitions. India does not see itself merely as a regional power but rather seeks global recognition as a major power. This attitude is clearly reflected in its continuous arms buildup, which aims to place it on par with other global powers.

Third, these developments pose not only an imminent threat to the regional strategic order but also have the potential to impact global security calculations. India's submarine launched ballistic missiles (SLBMs) and land-based missiles, with 12,000 km reach, demonstrate India's global strategic objectives. India's call for strategic autonomy further underscores this point: India can challenge the international order at its discretion. It has already done so on several occasions, disregarding the influence of major powers like the U.S. and Russia. The international community should take notice of India's intercontinental missile capabilities. India's growing advancement in missiles and submarines technology would adversely impact Pakistan's strategic behaviors and its commitment to international arms control norms. Therefore, these Indian missile systems have undermined the fragile arms control atmosphere in South Asia.

References

- Abraham, I. (1998). *The making of the Indian atomic bomb: Science, secrecy and the postcolonial state*. Zed Books.
- Akhtar, R. (2025, July 19). *The Problem with India's New Missile Gambit*. Dawn. <https://www.dawn.com/news/1925251>
- Ali, M. (2019). *What does it mean to have an Indian Naval Base in Minicoy? - Strafasia | Strategy, analysis, News and insight of Emerging Asia*. Strafasia | Strategy, Analysis, News and Insight of Emerging Asia. <https://strafasia.com/what-does-it-mean-to-have-an-indian-naval-base-in-minicoy/>
- Ali, M. (2024, December 6). *India's Nuclear Submarine Program Raises Security Concerns for Pakistan - Stratheia*. Stratheia. <https://stratheia.com/indias-nuclear-submarine-program-raises-security-concerns-for-pakistan/>
- Ali, M. (2025, July 30). *Why India's SSBNs Have Global Reach? - Stratheia*. Stratheia. <https://stratheia.com/why-indias-ssbns-have-global-reach/>
- Brahya, J. (2026). *Indian Navy to test K-6 hypersonic ballistic missile for future underwater nuclear strike force*. Armyrecognition.com. <https://armyrecognition.com/news/navy-news/2025/indian-navy-to-test-k-6-hypersonic-ballistic-missile-for-future-underwater-nuclear-strike-force>
- Brands, H. (2006). Rethinking nonproliferation: LBJ, the Gilpatric Committee and U.S. national security policy. *Journal of Cold War Studies*, 8(2), 83–113. <https://doi.org/10.1162/jcws.2006.8.2.83>
- Brodie, B. (1959). *Strategy in the missile age*. RAND Corporation.
- Chengappa, R. (2002). *Weapons of peace: The secret story of India's quest to be a nuclear power*. HarperCollins.
- Cote, O. R., Jr. (2019). Invisible nuclear-armed submarines, or transparent oceans? *Bulletin of the Atomic Scientists*, 75(1), 30–35. <https://doi.org/10.1080/00963402.2019.1555998>
- Department of Atomic Energy. (1966). *Annual report 1965–66*. Government of India.
- Feaver, P. D. (1992–1993). Command and control in emerging nuclear nations. *International Security*, 17(3), 160–187. <https://doi.org/10.2307/2539133>
- Foye, H. (2022). *India Tests Submarine, Land Missiles | Arms Control Association*. Armscontrol.org. <https://www.armscontrol.org/act/2022-11/news/india-tests-submarine-land-missiles>
- Ganguly, S. (1999). India's pathway to Pokhran II: The prospects and sources of India's nuclear weapons test. *International Security*, 23(4), 148–177. <https://www.jstor.org/stable/2539297>
- Gupta, S. (2024, November 25). *A dangerous watershed: India's new SSBN and the regional deterrence imbalance*. South Asia Journal. <https://southasiajournal.net/a-dangerous-watershed-indias-new-ssbn-and-the-regional-deterrence-imbalance/>
- Huth, P., & Russett, B. (1988). Deterrence failure and crisis escalation. *International Studies Quarterly*, 32(1), 29. <https://doi.org/10.2307/2600411>
- Joshi, Y. (2019). Samudra: India's convoluted path to undersea nuclear weapons. *The Nonproliferation Review*, 26(5–6), 481–497. <https://doi.org/10.1080/10736700.2020.1720243>
- Kakar, S. A., & Barech, M. H. (2025, August 11). *How the World Is Ignoring a New Nuclear Trajectory in South Asia — Global Security Review*. Global Security Review. <https://globalsecurityreview.com/how-the-world-is-ignoring-a-new-nuclear-trajectory-in-south-asia/>
- Kampani, G. (2014). New Delhi's long nuclear journey: How secrecy and institutional roadblocks delayed India's Weaponization. *International Security*, 38(4), 79–114. https://doi.org/10.1162/isec_a_00158
- Karnad, B. (2002). *Nuclear weapons and Indian security: The realist foundations of strategy*. Macmillan.
- Kazmi, B. Z. (2025, July 24). *CISS Strat Review – In Defence of Deterrence: Why India's Operation Sindoor Marks a Dangerous Drift Toward Compellence*. CISS Pakistan - Center for International Strategic Studies.

<https://ciss.org.pk/ciss-strat-review-in-defence-of-deterrence-why-indias-operation-sindoor-marks-a-dangerous-drift-toward-compellence/>

- Khan, A. A. (2023). Nuclearization of Indian Ocean region: Implications for strategic stability in South Asia. *CARC Research in Social Sciences*, 2(3). <https://doi.org/10.58329/criss.v2i3.32>
- Kunde, R. (2025, July 28). *DRDO next generation ICBM: A new era of strategic deterrence with advanced anti-ABM capabilities*. India Defence Research Wing. <https://idrw.org/drdo-next-generation-icbm-a-new-era-of-strategic-deterrence-with-advanced-anti-abm-capabilities/>
- Lyndon B. Johnson Presidential Library. (1965). *Letter from Glenn Seaborg to Homi Bhabha* (March 19, National Security Files, Box 25).
- Mian, Z., Ramana, M. V., & Nayyar, A. H. (2019). Nuclear submarines in South Asia: New risks and dangers. *Journal for Peace and Nuclear Disarmament*, 2(1), 184–202. <https://doi.org/10.1080/25751654.2019.1621425>
- Morgan, F. E. (2008). *Dangerous thresholds: Managing escalation in the 21st century*. RAND Corporation.
- Mueller, K. P., Castillo, J. J., Morgan, F. E., Pegahi, N., & Rosen, B. (2006). *Striking first: Preemptive and preventive attack in U.S. national security policy*. RAND Corporation. <https://www.rand.org/pubs/monographs/MG403.html>
- Nehru Memorial Museum and Library. (1954). *Summary record of the meeting between the Planning Commission and the Atomic Energy Department held on November 30, 1954* (File No. 308, Jawaharlal Nehru Papers).
- Pandit, R. (2024, August 11). India fully ready to add second nuclear submarine. *The Times of India*. <https://timesofindia.indiatimes.com>
- Pant, H. V., & Joshi, Y. (2018). *Indian nuclear policy: A short introduction*. Oxford University Press.
- Patel, R. (2025, August 21). *Indian Navy's Third Nuclear SSBN, INS Aridhaman, Enters Final Phase of Extensive Sea Trials, Formal Induction Expected by 2025 End*. Defence News India. <https://defence.in/threads/indian-navys-third-nuclear-ssbn-ins-aridhaman-enters-final-phase-of-extensive-sea-trials-formal-induction-expected-by-2025-end.15299/>
- Perkovich, G. (2002). *India's nuclear bomb: The impact on global nuclear proliferation*. University of California Press.
- Ramana, M. V. (2012). *The promise of power: Examining nuclear energy in India*. Penguin.
- Rehman, I. (2012). Drowning stability: The perils of naval nuclearization and brinkmanship in the Indian Ocean. *Naval War College Review*, 65(4), 1-25. <https://digital-commons.usnwc.edu/nwc-review/vol65/iss4/8/>
- Roche, E. (2019, April 12). India could soon become a 'NATO ally' as U.S. lawmakers introduce a new bill. *Livemint*. <https://www.livemint.com/news/india/india-could-soon-become-a-nato-ally-as-us-lawmakersintroduce-a-new-bill-1555043662163.html>
- Schelling, T. C. (2021). *The threat that leaves something to chance*. RAND Corporation.
- Tellis, A. J. (2002). *India's emerging nuclear posture: Between recessed deterrence and ready arsenal*. RAND Corporation.
- The Times of India. (2024, August 29). *India commissions INS Arighat: Know all about Navy's second nuclear-powered submarine*.
- Wueger, D. (2016). India's nuclear-armed submarines: Deterrence or danger? *The Washington Quarterly*, 39(3), 77–90. <https://doi.org/10.1080/01636660x.2016.1232636>