

RAMIFICATIONS OF INDIA'S NAVAL BUILD-UP IN NUCLEAR REALMS

*Gulshan Bibi and Brice Tseen Fu Lee**

Abstract

The naval build-up of India in contemporary times reflects its major power ambitions. Owing to its development of advanced naval capabilities coupled with its long-standing desire to develop a blue-water navy is a major driver of this build up. These blue water ambitions stir instability in Indian Ocean Region (IOR) affecting Pakistan's threat perceptions. The most important development in the region's stability and security architecture is the addition of second-strike capacity to the sea, which carries serious consequences. Hence, it is pertinent to address the question of strategic stability regarding the development of India's sea based nuclear capabilities. This paper explores Indian naval nuclear developments and their repercussions for the security environment of South Asia. It establishes that nuclearization of Indian Ocean is leading to aggressive arms build-up in South Asia and subsequent risk of nuclear accidents, sabotage and command and control vulnerabilities.

Keywords: Indian Ocean Region, Arms Race, Nuclearization, BRI, Strategic Stability, Implications.

Introduction

The Indian Ocean is located at a critical location connecting different parts of the world, including Asia, Europe, America and Africa. Approximately 80% of the world's energy traffic travels across the Indian Ocean, making it a route for international trade.¹ It is not only an important route for trade, but also rich with other resources (e.g. seafood, copper, gold, silver, cobalt and oil production). Almost 40% of the oil production takes place at the shores of the Indian Ocean. Its strategic importance cannot be ignored as it is also crucial considering the economic growth of the region. Given that a considerable percentage of global trade passes through the Indian Ocean, its strategic importance has increased manifold for extra regional powers. Furthermore, the regional powers also intend to have maximum influence on the Indian Ocean Region (IOR) and increase their stakes. During the Cold War era, former Soviet Union and United States of America (USA) tried to maintain their presence in the IOR. Only after Britain withdrew from Suez Canal, the regional

*Miss Gulshan Bibi is a PhD Scholar at School of International Relations and Public Affairs (SIRPA), Fudan University, Shanghai, China. Brice Tseen Fu Lee is a PhD Scholar at Fudan University, School of International Relations and Public Affairs (SIRPA) and Senior Researcher, Universidad del Desarrollo, Faculty of Government, Santiago, Chile. The author(s) can be reached at 20110170056@fudan.edu.cn.

countries paid attention to it. Since then, the chapter on the power struggle in the IOR began and has never been closed.

Currently, the key concern is what impact India's development of sea-based nuclear capacity in IOR will have on South Asia's strategic stability? The key argument is that South Asia would lack strategic stability or deterrence stabilization with the establishment of a nuclear triad in general or a second-strike capability in particular. Instead, it will fuel an arms race by increasing uncertainty in South Asia and complicating nuclear command and control.

Hegemony and Strategic Deterrence in South Asia

Classical Realism in International Relations (IR) has a theoretical offshoot as Offensive Realism. When highlighting the crucial role of states as rational actors interacting in the chaotic international political landscape using the principles of self-help and survival, it captures the core ideas of the classical realist approach. Since there is no supreme power or centralized government to reign over humans, Offensive Realism embraces the idea that there is global anarchy, which has existed in the past, is current, and will always exist. Through logical analysis and cost-benefit calculations, all actors in the system assess the external environment and because governments never fully grasp each other's intentions, fear has always been the dominant concept in this anarchic system. Furthermore, according to John Mearsheimer,² global hegemony is impossible due to the stopping force of water, which prevents nations from extending their military might around the world. However, being a regional hegemon with implicit authority in a region would be the ideal framework or strategy for a powerful state. In many regions, the ultimate goal of a powerful state is to establish regional hegemony. For explaining the modernization and growth of the Indian naval force in the Indian Ocean, Theory of Offensive Realism by Mearsheimer establishes a thorough theoretical framework. The modern incarnation of this idea is seen in India's naval development.

Strategically, the deterrence in South Asia has been maintained by nuclear arsenals not only between India and Pakistan but also with India's eastern competitor China. Given region's strategic importance and power competition between China and USA, the interests of all major powers have once again increased in South Asia and IOR. The growing Sino-American power competition also impacts the nuclear dynamics in South Asia. The result is a strategic domino effect that is starting an arms race. Because of this strategic chain, China's need to compete with nuclear arsenal of the US prompts India to keep up with China, which in turn compels Pakistan to boost its own nuclear capabilities in response to India. Along with an amplifying arms race, it has also affected nuclearization of IOR.

The interest in the Indian Ocean goes beyond the regional actors alone while the shift in geopolitics dynamics allows India space to catalyze nuclearization in IOR. The Quadrilateral Security Dialogue (QUAD), comprising India, Japan, USA and

Australia, and the closer ties between India and USA are rising from the fact that the dependency of each state has significantly increased on water resources. Thus, when it comes down to it, everything boils down to a power struggle to seize direct or indirect control of the key trade routes. This qualitative and quantitative study employs descriptive chronological analysis to approach an issue from a larger perspective. To various policy makers in Pakistan, it makes policy suggestions for potential areas of regional security.

Current Indian Naval Nuclear Capabilities and Future Vision

India's commitment to attain a nuclear triad, in line with conventional nuclear warfighting doctrine, is clearly evident from its current naval nuclear capabilities and future vision. It has made significant strides in enhancing its naval capabilities, with a focus on both indigenous development and strategic partnerships. The flagship aircraft carrier, INS Vikrant, weighing 45,000 tons, is an impressive achievement in indigenously built naval assets.³ The INS Vishal, the second ship of the Vikrant-class aircraft carrier, is currently in the design stage and holds the potential to be India's first nuclear-powered aircraft carrier. This signals a strategic move towards bolstering the country's naval prowess with cutting-edge technology.⁴

The Kiev Class INS Vikramaditya, at 45,400 tons, remains a cornerstone of the Indian Navy, showcasing the importance of versatile assets in naval operations.⁵ Meanwhile, the Amphibious Warfare Ships, initially planned between 9,000 to 16,000 tons, underwent a modification to introduce two amphibious assault vessels with a displacement of 30,000 to 40,000 tons. The contenders for this development include Spain's Juan Carlos I Class and France's Mistral-class.

The Project 15 Bravo or Visakhapatnam Class Destroyer, exemplified by INS Mormugao, boosts features such as automation and stealth, with subsequent vessels like INS Imphal and INS Surat planned for commissioning in 2024 and 2025, respectively. Similarly, the Project-17 Alpha or Nilgiri-Class Frigates aim to enhance stealth capabilities, Radar Cross-Section (RCS), and Infrared signature on Shivalik Class Frigates, with a goal to induct all these ships by 2025-2027.⁶

Project 11356 or Talwar Class Frigates, featuring better stealth and armament at 3,850 tons is set to see the first two Russian-built ships enter service in 2023, followed by the final two in 2026.⁷ Additionally, the Anti-Submarine Warfare Shallow Water Craft (ASW-SWC) Corvette, developed by CSL and GRSE, is expected to replace the Abhay-Class Corvettes, with all 16 corvettes slated to be in service by 2026.⁸

The Next Generation Missile Vessels (NGMVs), designed for low Radar Cross-Section (RCS) and weighing 2,200–2,800 tons will see six vessels built by Cochin Shipyard by 2027.⁹ Meanwhile, the Next Generation Off-shore Patrol Vessels, totaling 11 advanced Patrol Ships, could potentially be delivered to neighbouring countries, following India's past practices.

In terms of submarines, India aims to increase its fleet size to 24 by 2030, with the introduction of various classes such as the Arihant Class Submarine, S-5 Class Submarine, Chakra III (Akula) class Submarine, and Project 75 Alpha.¹⁰ The Kalvari class or Scorpene-class submarines, produced by French Naval Group and Mazagon Dock Shipbuilders, are scheduled to have a total of six submarines, with four already in service and the remaining two expected in 2023.

Project 75I Class Submarine, a diesel-electric submarine with an allocated budget of 43,000 crores, is currently in progress. The Indian Navy's comprehensive approach also includes the acquisition of Twin Engine Deck Based Fighter (TEDBF) to replace the MiG-29K aircraft and the Multirole Carrier Borne Fighter, with 36 Boeing F/A-18 Super Hornets successfully tested in March of the previous year.¹¹

For maritime surveillance and reconnaissance, the Indian Navy has invested in Naval Shipborne Unmanned Aerial Systems and MQ-9B Sea Guardian UAVs. Additionally, various aircraft and helicopters, including the Dornier 228, Boeing P-8I Poseidon, Sikorsky MH-60R Romeo Helicopters, Kamov Ka-31 airborne early warning and control helicopter, and the upcoming Indian Multi-Role Helicopter (IMRH), demonstrate India's commitment to modernizing its aerial capabilities.¹² In short, India's naval capabilities reflect a combination of indigenous innovation, strategic partnerships, and a forward-looking vision for a robust and technologically advanced naval force.

Rationale behind Indian Naval Nuclear Developments

This section tries to answer multiple questions such as:

- Why does India want a nuclear triad?
- What effects would India's development of sea-based nuclear capability have on nuclear deterrence and strategic stability in South Asia?
- What is India's nuclear navy's development trajectory?
- Would the ability to launch a second strike stabilize Pakistani-Indian deterrence?
- What is the way forward for Pakistan to counter India's expanding naval capabilities? The following analysis tries to sum up the debate.

Doctrinal Footings

India began its nuclear programme and made strides in this direction under Rajiv Gandhi's leadership. As a result of this planning, India launched its first-ever nuclear ballistic submarine, INS Arihant. Earlier, India was more focused on its continental strategy. However, in recent times, it has shifted its focus on the IOR.

India published a draft nuclear policy following its nuclear tests in 1998. It called for a future minimum nuclear deterrent to be made up of "a triad of aircraft, mobile land-based missiles, and sea-based assets."¹³ In subsequent publications, such

as the maritime strategy and updates to its doctrine in 2004, 2009, and 2015, the importance of sea-based deterrent to India's nuclear posture has been emphasized. In 2009, the Indian Navy conducted a study that concluded that for nuclear deterrence, a nuclear submarine is ideal due to its stealth capabilities and its ability to launch a second strike. Mr. Arun Prakash, Former Chief of Indian Naval Staff, makes a similar point. He argues that the only way for India to ensure the unbreakability of its deterrent is to deploy it on an SSBN and keep it underwater.¹⁴ He further says that satellites make it harder to hide or protect land-based nuclear facilities. Once a submarine reaches the deep waters of the open ocean, it becomes nearly impossible to locate or attack.

The Indian government has put SSBNs at the top of its list of changes to its doctrine in order to build a credible nuclear deterrent against Pakistan and China, two of its nuclear adversaries. One of the most important parts of India's Maritime Security Strategy for 2015¹⁵ is a nuclear deterrent that is based at sea. In response to a nuclear attack on India, it says that it is important to keep "a credible minimum deterrent with the threat of overwhelming nuclear retribution designed to cause intolerable damage."¹⁶ This relies on dispersion, making it challenging to attack by surprise. India wanted to make an SSBN, which is a part of the nuclear triad that can be used at sea. The document says that due to its stealth qualities, which enable discrete and lengthy deployment as well as combat capabilities, including weaponry, an SSBN delivers a credible, effective, and survivable capability and helps ensure punishing reprisal in accordance with our nuclear strategy. When SSBNs are in place, it makes it harder for an enemy to gain the upper hand through nuclear posture or escalation. Some people say that bureaucratic concerns and a desire for status led India to decide to build a nuclear triad. Having nuclear power gives the fleet a lot of prestige, which is clear. During Arihant's debut in July 2009, Manmohan Singh, India's Prime Minister Manmohan Singh declared, "Today, we join an exclusive club of five countries [the five permanent members of the United Nations Security Council (UNSC)] that have the ability to build a nuclear-powered submarine." He continued, referring to it as "a special achievement."¹⁷

There could also be a bureaucratic reason. The Indian Navy asserts that India is the only country without a nuclear triad. Its lack of strategic programmes was discussed in its first public maritime policy, which was released in 2004. India's development of nuclear naval capabilities gives it more prestige and makes it a part of the strategic nuclear programme. However, the Cold War belief that a second strike is crucial may be a significant reason for India's pursuit of nuclear-armed naval vessels. According to the Indian Maritime Security Strategy 2015, the Cold War showed that stabilizing and improving deterrence can be done by reducing the first-strike component while increasing the second-strike component. The Indian strategy revolves around the navy, particularly a nuclear navy with a submarine capable of launching a second attack. There is a rationale behind this policy. "Given its nuclear stance of No First Use (NFU), India is particularly interested in the naval component of the nuclear triad."¹⁸ Under the current Bharatiya Janata Party (BJP) government, the

Indian Ocean has gained a level of priority in Indian foreign policy arguably not seen since the time of Indira Gandhi. Currently in IOR, the Indian Navy is the top maritime power. In 2022, it has unceasingly carried out its mandate by increasing its presence.

India's Increasing Naval Budget and Resources

India has been building a blue-water fleet to improve its sea power. To reach its goal of becoming a regional and global power, it considers to improve its naval nuclear capabilities. Currently, the Indian Navy has a fleet of 300 aircraft, 150 ships, and submarines. Six submarines and 56 more warships are now being built in Indian shipyards. (Details are aforementioned in the table)

Indian naval strength and budget are gradually getting better and stronger. Indian navy has received funding in the amount of 450 million INR for the upgrading of its assets, as estimated by the budget for the fiscal year 2022–2023. Additionally, it is estimated that by 2026–2027 the navy will receive nearly \$2700 million for simply its modernization needs, indicating an annual 10% growth for naval modernization.¹⁹ In contrast to the INR 33,253.55 crores from the budget for the previous year, Indian Navy has been given a share of INR 47,590.99 crores for capital outlays in 2022–23. The figures show that the capital expenditure in 2022–23 will be higher by 43.11 percent than the amount allowed for the Indian Navy in 2021–22. It also plans to spend at least \$61 billion over the next few years to almost triple the size of its fleet.

Financial Year	Allocated Budget to Indian Navy (both Revenue and Capital) value in crores	Overall budget of three services (both Revenue and Capital) value in crores	Percentage Share of the IN in terms of service-wise allocation (in percent)
2021-22	56,614.23	3,47,088.28	16.31
2022-23	72,997.41	3,85,370.15	18.94

(Source: Rahul Rawat, India's defence budget: The navy and its Atmanirbhar Bharat Mission)

To deter adversaries, Indian Navy continues to advance its procurement goals. "During 2022, construction of 37 ships and submarines at Indian shipyards under Atmanirbhar Bharat was progressed."²⁰ Current Indian government is also paying focus on indigenization, self-sufficiency, and the "Make in India" programme. A 10-year Integrated Capability Development Plan (ICDP) has been adopted to support the modernization of the Indian Navy in line with the country's emphasis on self-reliance. The former Maritime Capability Perspective Plan, which covered 15 years, was replaced by the ICDP (MPCC). Development of marine theatre command and increased modernization flexibility are the two main planning changes due to the quick pace of technological advancement.

Development of Nuclear Sea Capabilities by India

With the construction of a 90 MW reactor underway, the Indian Ocean has become more nuclear. This development led India to rent a nuclear submarine from the USSR." INS Arihant, its first nuclear ballistic missile submarine, is part of this plan. This submarine can accommodate approximately twelve K-15 Sagarika SLBMs. These submarines can launch ballistic missiles that are armed with nuclear weapons.

Additionally, India wants to add more submarines to its fleet. This includes updating India's Russian and German submarines and building Scorpions with help from the French. Also, the US will lease more Russian submarines. The French government owns a company called Direction des Constructions Navales (DCNS), which will help build the \$4.6 billion Scorpion submarines. These submarines are hard to find because they can stay underwater for up to a week. By prioritizing submarines, India aims to be better prepared for potential conflicts, gaining a significant strategic advantage in the Indian Ocean. In addition, the Indian Navy has the nuclear-powered Akula-class submarine INS Chakra (SSN), which can remain submerged for months as opposed to conventional submarines, which must frequently surface.²¹ Upgrades could be implemented on these submarines to enable them to launch ballistic missiles with nuclear warheads. India's ability to launch a second attack depends on how many Arihant-class SSBNs it can build. It appears that India plans to include six Arihant-class SSBNs in its fleet expansion. While India and Russia discuss the possibility of renting a second attack submarine from the Akula class, six nuclear attack submarines (SSNs) are also under construction. In March 2023, France also offered to collaborate with India in jointly creating six nuclear submarines. India would benefit from not having to rely on Russia, and France would benefit from being able to recover all of its investment in the abandoned Australia contract.²²

India has also tested and deployed the Dhanush short-range ballistic missile, capable of carrying nuclear weapons. The naval version of Prithvi III can carry 500 kg and has a range of 350 km²³ through collaboration between India and Russia, India acquired frigates of the Talwar class. Each of these frigates is equipped with eight nuclear Brahmos missiles. Brahmos missiles are versatile, capable of being launched from submarines, surface ships, ground installations, and aircraft.²⁴ Once India acquires a complete arsenal of nuclear-capable missiles for its naval systems, it will be able to conduct a second nuclear attack. Indian neighbours, including Pakistan, feel threatened because of this growth. On December 18, 2022, Indian Navy launched INS Mormugao, indigenously-built second ship of the Visakhapatnam-class stealth guided-missile destroyers. Shri Rajnath Singh, Defence Minister of India said at the launch event that its first aim is to ensure that the battleship, which is equipped with cutting-edge weapons and sensors, "would boost country's maritime capabilities and secure national interests amid developing global environment."²⁵

Implications for Strategic Stability in South Asia and Pakistan

Pakistan, a primary littoral state in the IOR, boasts a 990km long coastline situated in the middle of the Arabian Sea. Its Exclusive Economic Zone contains the majority of its marine economic resources. Due to its proximity providing the quickest maritime access to Afghanistan, the Western Province of China, and the landlocked Central Asian nations, its western shore, near the Gulf, holds strategic significance. The Belt and Road Initiative (BRI) and China-Pakistan Economic Corridor (CPEC) by China provide the Indian Ocean much more significance for Pakistan. Pakistan is motivated to protect its economic interests in the Indian Ocean by the commercial prospects, connectivity, and resources. Concerns regarding maritime security, including the preservation of SLOCs, security measures at maritime chokepoints, Pak-India tensions, and Sino-Indian rivalry, are endangering the stability of the area and could determine the future dominance of IOR.

Indian Ocean Rim Association (IORA) was founded with India as a founding member, which is of primary importance. In addition to maritime safety and security, the IORA has recently expanded its purview to cover non-traditional concerns. The IORA was originally established for economic cooperation. It is a collaboration between numerous regional and non-regional states. Pakistan's membership in the IORA was stopped by India. Considering that Pakistan is a major role in the Indian Ocean region, the Indian navy's naval modernization and its expansion there would raise serious questions about Pakistan's national security. The Indian Ocean, in Pakistan's opinion, belongs to all the littoral states in the region and is not only India's ocean. Along with having effects on Pakistan's national security, India's rapid naval development and expansion of its naval forces throughout the Indian Ocean will also alter the balance of regional strategic stability. This modernization has the potential to impact regional stability in South Asia in several ways.

India's growing naval capabilities, which include the purchase of new ships, nuclear-powered submarines, aircraft carriers, new and sophisticated attack helicopters, and the revitalization of its third eye through the use of spy satellites, potentially shift the regional power balance in its favour and heighten military tensions with neighbours like Pakistan. India's ambitious could result in a regional arms race as other nations may follow suit and need to improve their naval capabilities to balance India's rising naval power, which could be unstable.

Pakistan has strong reservations about India's strategic alliance with the United States and its new ties with neighboring countries that ignore Pakistan. The Indian Navy has entered into numerous agreements with various states (including Japan, Australia, Mauritius, Madagascar, Seychelles, and others) throughout the Indian Ocean region in an effort to create naval bases there. The expansion of India in the region is seen as aggressive by Pakistan, which is experiencing economic difficulties and was unable to modernize its naval capabilities, upsetting the balance in the region.

Conflicts with other South Asian countries, especially Pakistan, could arise as a result of increasing patrols and surveillance in the Indian Ocean as a result of India's expanded naval presence in the region. It might jeopardize the maritime security of the region.

The region's other nations may raise their military spending as a result of India's navy modernization efforts, which could syphon funds away from economic growth and possibly widen the wealth gap, which could be unstable.

The upgrading of India's navy may also have an impact on the region's economy because of India's potential to gain more control over trade lanes and resources in the Indian Ocean, which would be detrimental for Pakistan and other neighbouring economies.

The growing stress in the maritime environment hurts Pakistan's ability to protect its borders. Karachi and Qasim, Pakistan's two largest ports, handle 45% and 55% of all business, respectively. Security concerns arise due to the proximity of these ports to India's aviation and naval capabilities, especially considering that Pakistan relies entirely on maritime trade routes for its oil supply. India has the power to limit communication, freedom of movement, and access to the ocean's resources, which is a threat to all Indian Ocean countries with coastlines. On the other hand, India's intentions to deploy nuclear weapons in the Indian Ocean pose the most significant threat. Putting together its nuclear triad is a significant step in the right direction for Pakistan, which wants to maintain a potent nuclear deterrent against India. While India and Pakistan have different naval strengths, it makes the danger seem more real.

At the moment, the Indian navy is six times bigger than the Pakistani navy. India's naval strategy calls for its fleet to be much better by the year 2027. This would make Pakistan even more worried about its security, speed up the arms race between India and Pakistan, and make the gap between their naval forces even bigger. Additionally, the marine infrastructure in India is quite advanced with 212 ports, of which 12 are important. By acting like a security provider, India is trying to convince the rest of the world and China that it is now part of the power struggle. It shows that force projection and sea denial are at the center of India's naval strategy. Additionally, recent demands for arming India with thermonuclear weapons and naval nuclear reactor designs by academics like Ashley Tellis represent a risky course of action and negative implications.²⁶

Even if Pakistan and India each had a certain ability to launch a second attack, they would still work on building up their conventional forces, making new nuclear delivery systems, and improving nuclear warhead technology. Putting an underwater deterrent in place would make it more likely that it would be mishandled, misunderstood, or escalate, making an already dangerous situation even worse. One Indian analyst, Vipin Narang, thinks that if the SSBN force worked, it would make it harder for civilians in India to control their nuclear weapons. India's nuclear arsenal is under civilian control during times of peace and moderately important events. This

makes it less likely that the weapons will be used by accident. Diana Wueger talks about the problem of "always/never." Even though weapons must always be ready to be used, this suggests that it may be hard to keep them from being used accidentally or without permission. The certainty of assembling nuclear weapons on a submarine differs from the current plan of India and Pakistan, where delivery systems and warheads are kept separate. Assembling weapons increases the risk of accidental use, heightening the danger in the South Asian nuclear theater. If the ship's connection to the outside world breaks, things could get very dangerous. India's nuclear command and control system is still being built, so a submarine carrying a nuclear-tipped missile would need to be given permission to launch ahead of time. This increases the chance of a mistake and an unauthorized launch.²⁷ India already has a history of missing uranium and nuclear accidents. It argues that it has an unblemished track record in nuclear safety and security, although a series of accidents in India call this Indian claim into question. Three thefts of uranium or radioactive items took place in India in 2021, proving that there is a black market for nuclear materials inside India. Additionally, it calls into question India's massive stockpiles of fissile material. The Indian government seized 6.4 Kg of uranium in Jharkhand in June 2021 and 7 kg of uranium in Maharashtra in May 2021.²⁸ Similar to this, on August 21 in Kolkata, 250 kg of highly radioactive and poisonous material called Californium, valued \$573, was seized, and two people were detained. 11 persons in total were detained in connection with these 3 occurrences. In India, instances of this nature are not unusual. People have been detained in the past on charges similar to these. In March 2022, it launched a missile towards Pakistan, attributing the mishap to a technical error during routine maintenance. It was a fast-moving object that fell close to the eastern city of Mian Channu in Punjab, endangering several domestic and international passenger planes as well as people and property on the ground in Pakistani and Indian airspace.²⁹

Way Forward for Pakistan

The Indian military developments fundamentally shape Pakistan's security choices. The naval nuclear developments have motivated Pakistan to develop its own sea based nuclear capabilities. Pakistan emphasizes reinforcing its policy of credible minimum deterrence by attaining a second-strike capability through its own sea-based deterrent. The strategic forces command was already established back in 2012 foreseeing the Indian destabilizing ambitions regarding Indian Ocean. While working to develop nuclear powered submarines, it can come up with novel technique of utilizing its cruise missiles keeping in view the current capabilities, the diesel-powered subs can be armed with nuclear tipped missiles, tactical can be mounted over naval frigates and giant naval war planes. By adopting innovative approaches, Pakistan could leverage its diesel submarines and dual-purpose platforms to establish a second-strike capability. It is in its financial interests to embrace this path since its economic limitations and time constraints. The SLBM Babar III has already been successfully tested in 2017 with range of 450 Km which manifests the technological advancement in time towards the balancing act and preserving the strategic stability plugging in the

strategic gaps created by India in South Asia. Moreover, it must improve its conventional submarines and other maritime nuclear launch systems.

While pursuing parity and stability on technical grounds Pakistan should also work on diplomatic grounds to put pressure on India about the hazards of vertical proliferations.³⁰ The dangers of nuclearizing Indian ocean must be highlighted to international community whose implications would not be just limited to Indian ocean and South Asian region but beyond. All the major arrangements and IGOs must be reached out to introduce nuclear restraint measures in the region to regulate the escalation ladder in the region and preempt any untoward crisis situation. The proposal to declare the Indian Ocean a Nuclear Weapon-Free Zone (NWFZ) could have a major stabilizing effect in this nuclear flashpoint region and pave the way for creating a conducive conflict resolution environment. Moreover, the 32 littoral governments that border the Indian Ocean also have a responsibility because the advent of nuclear weapons poses a threat to all of them. The neighboring states are in significant danger from sabotage, nuclear accidents, and unlawful nuclear weapon use since the radiation that results can contaminate vast areas. Therefore, it is in the interest of all the stakeholders, global community, all the littoral states, international regimes to advocate nuclear weapon free zone in the Indian Ocean. Second strike capability usually makes deterrence stability stronger among the nuclear powers and particularly the rivals. But if one has acquired second-strike capability and other lacks it, then the stability and balance of power erodes. In case of India and Pakistan, the nuclearization of sea-leg of Pakistan must be deemed as reaction to Indian nuclearization of the ocean. Now, when both the countries are striving for nuclearization of sea-leg the chances of nuclear warfare become higher due to lesser collateral damage in water. However, there is a need to reduce the chances of war by:

- Working towards establishment of values and norms which can regulate the behaviour of archrivals in seas.
- Confidence Building Measures (CBMs) should also be taken between the two countries in order to prevent the chances of naval warfare between India and Pakistan.
- Having anti-missile capabilities in place can help to improve the overall security posture of the country, particularly in the face of potential threats from nuclear-powered submarines or other sources. However, acquiring and maintaining these systems can be complex and expensive, and the government of Pakistan should carefully consider the costs and benefits of such investments.
- Pakistan would have to build up its own navy and nuclear capabilities in order to keep the balance of deterrence between the two countries. This would turn the Indian Ocean into a pointless arms race.

Conclusion

The Indian Ocean has always been of interest to major powers. From the colonial Era to post-colonial times, major powers sought to maintain a monopoly on water routes. However, after Britain withdrew from East Suez, Indians took an interest in IOR. Initially, India's focus was on coastal regions, but now it extends to the waters of the Indian Ocean. Currently, the nuclearization of the Indian Ocean is provocative and India's superiority over Pakistan contributes to regional instability. The division and polarization in the region are also alarming for other countries. Regional circumstances in the form of extreme polarization, the nuclearization of the Indian Ocean, and the far-right regime in India are all causing threats to the region. The involvement of foreign powers in the region is another factor in brewing intense sentiments and chances of warfare. The intentional and conscious visit of Nancy Pelosi has taken the regional tensions a step ahead. Collectively, these factors pose challenges to the peace and stability of the region. The present circumstances reinforce the statement of the UN Chief regarding nuclear escalation and calls for responsibility on behalf of nuclear powers.

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