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Nuclearization of Indian Ocean and its Impact on Pakistan's Maritime Security

Abstract

This research paper aims to explore the nuclearization of Indian Ocean by world's nuclear power states i.e., India, China directly and United States indirectly and its probable repercussions on Pakistan. The militarization of Indian ocean is directly connected to Pakistan's security and stability. This research will analyze India's action of turning the Indian Ocean into a nuclearized space to gain dominance in Indian Ocean Region through its land based nuclear assets and nuclear infrastructure. This research will utilize the Theory of Maritime Security and employed exploratory qualitative research methodology by using the primary and secondary data. By adding to the discourse on Indian ocean region, this research will apprise readers with the possible solutions and ways Pakistan can adopt to combat the treats and gain regional stability. Therefore, destabilizes the balance of power and the odds of violence, too, which bear implications of insecurity at the multilateral level.

Keywords: Nuclearization, Indian Ocean Nuclear Power, Threat to Pakistan Security, Implication for Pakistan

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Cite Us



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Abstract

This research paper aims to explore the nuclearization of Indian Ocean by world's nuclear power states i.e., India, China directly and United States indirectly and its probable repercussions on Pakistan. The militarization of Indian ocean is directly connected to Pakistan's security and stability. This research will analyze India's action of turning the Indian Ocean into a nuclearized space to gain dominance in Indian Ocean Region through its land based nuclear assets and nuclear infrastructure. This research will utilize the Theory of Maritime Security and employed exploratory qualitative research methodology by using the primary and secondary data. By adding to the discourse on Indian ocean region, this research will apprise readers with the possible solutions and ways Pakistan can adopt to combat the treats and gain regional stability. Therefore, destabilizes the balance of power and the odds of violence, too, which bear implications of insecurity at the multilateral level.

Keywords:

[Nuclearization](#), [Indian Ocean Nuclear Power](#), [Threat to Pakistan Security](#), [Implication for Pakistan](#)

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Introduction

In recent years, there have been significant changes to the Indian Ocean region's security dilemma. The nuclearization of the Indian Ocean region is a growing worry because of its strategic significance to world security. The number of nuclear-armed governments in

the area has skyrocketed in recent decades, and a small number of nuclear-capable states have also emerged (Holslag, 2009). This is largely due to the aggressive nuclearization of the states in the region, as well as the proliferation of nuclear technology in other countries. The Indian Ocean is a hub of international trade that



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determines its position and control over it, positioning it as the epicenter of influence in International Economy and Power Politics. The major transactions of the world from east to west and vice versa are done through the Indian Ocean (Sharma & Mishra, 2024) In the current era of globalization, control over the Indian Ocean is a matter of power politics and nuclearization plays a pivotal role in this regard. According to the free dictionary, Nuclearization refers to supplying or deploying nuclear weapons. The nuclearization of the Indian Ocean region means the deployment of nuclear missiles, ballistic missiles, and nuclear submarines by the nuclear superpowers directly or indirectly linked by the Indian Ocean. (Zia, 2017).

The discharge to peace of the Indian Ocean is usually due to the Nuclearization introduced by Allied Powers (India, Pakistan, China France, and the US). These nations are increasing their naval capabilities in (IOR), Especially India has a great influence in the Indian Ocean. India has purchased Nuclear Ballistic Missile Submarine from Russia and France (Jalil, 2020). India will send these submarines into the Indian Ocean and create a balance of power in this Ocean. The Indian Ocean is the 3rd world's largest ocean of hot water its geostrategic location is very significant, and it serves as a bridge of Communication between East Asia, Africa, South Asia, and the Middle East. Almost 80% of world trade is done through the Indian Ocean (Menon, 2023). So that's the reason behind Indian Ocean Nuclear Powers are trying to take control over the Indian Ocean by assigning their submarine to the Indian Ocean. Nuclear-armed race is now increasing in the Indian Ocean Region. Nuclear capabilities, although it has not officially acknowledged this. India and Pakistan, several other states in the region are believed to possess nuclear capabilities. Iran, for instance, is believed

to have the capability to build nuclear weapons, although it does not publicly acknowledge its nuclear weapons program. Similarly, North Korea is believed to have some nuclear capabilities, although it has not officially acknowledged this. (Jalil, 2020).

There are many nuclear powers in the Indian Ocean, each with distinct interests and capabilities. With its economic might and nuclear arsenal, India, a major force in the area, may have a big say in what happens in the ocean. Longtime competitor of India, Pakistan, is a nuclear-armed state whose presence in the area exacerbates already-existing tensions (Mishra & PONI, 2017). With its economic and nuclear capabilities, China, a growing global power, can increase its influence in the Indian Ocean. Two well-known nuclear powers, France and Britain, are heavily represented in the area and use their economic and military might to safeguard their interests. Iran has a nuclear program in existence, which has alarmed regional and international players even though it is not a fully functional nuclear state (Robinson, 2023). Lastly, the United States has a strong presence in the Indian Ocean through alliances and partnerships, despite not being a direct littoral state, underscoring the region's strategic importance in the global geopolitical arena (Tarapore, 2024).

The fleet comprises 18 submarines, of which 17 are diesel-electric attack submarines and one is a nuclear-powered ballistic missile submarine named INS Arihant. The fleet is headquartered in Mumbai on the west coast and Visakhapatnam on the east coast. Appreciably, there are no SSNs as part of this fleet, and none of the SSKs have any AIP capability (India Submarine Capabilities, 2024)

Table 1

Name (Number)	Class	Builder	Commissioned
1 INS Sindhughosh (S55)	Sindhughosh	Sevmash	2005
2 INS Sindhuraj (S57)	Sindhughosh	Sevmash	2016
3 INS Sindhuratna (S59)	Sindhughosh	Sevmash	2016
4 INS Sindhukesari (S60)	Sindhughosh	Sevmash	2005
5 INS Sindhukirti (S61)	Sindhughosh	Sevmash	2006
6 INS Sindhuvijay (S62)	Sindhughosh	Sevmash	2007
7 INS Sindhurashtra (S65)	Sindhughosh	Sevmash	2016
8 INS Shishumar (S44)	Shishumar	Sevmash	2016
9 INS Shankush (S45)	Shishumar	HDW	2016
10 INS Shalki (S46)	Shishumar	MDL	2016
11 INS Shankul (S47)	Shishumar	MDL	2016
12 INS Arihant (S2)	Arihant	Navy Shipbuilding Centre	2016
13 INS Kalvari (S21)	Kalvari	MDL	2019
14 INS Khanderi (S22)	Kalvari	Naval Group	2019
15 INS Karanj (S23)	Kalvari	Naval Group	2021
16 INS Vela (S24)	Kalvari	Naval Group	2021
17 INS Vagir (S25)	Kalvari	Naval Group	2023

Name (Number)	Class	Builder	Commissioned
18 INS Vagsheer (S26)	Kalvari	Naval Group	2025
19 INS Arighat (S3)	Arihant	Ship Building Centre	Sea trial expected commission 2024

Pakistan holds significant strategic importance in East Asia and the Indian Ocean. The Nuclearization of the Indian Ocean by major nuclear powers like China, France, Britain, and Pakistan's greatest rival India directly and indirectly pose a threat to Pakistan's Security. This research paper aims to highlight the major threats of blue water nuclearization and Pakistan's combating strategies against this nuclear deployment by India. India, the most populous and powerful state in the region, has developed an expansive nuclear weapons program and is estimated to have around 500 nuclear warheads in its arsenal (Bibi, 2023). Since the United States has become a significant power in the Pacific Ocean. Now, the United States is working on the Obama Administration would extend and strengthen the US role in the Indian Ocean. The location of China is also very crucial in the Indian Ocean. China is a trade hub of global trade and a massive resource supplier through the sea. The Chinese government wished they could control the main choke points of the Indian Ocean like the Strait of Malacca and the Strait of Hormuz. China can rule the Indian Ocean if it gets control over these straits (Baruah, Surrounding the Ocean: PRC Influence in the Indian Ocean, 2023). The world community is very concerned about the growing nuclearization of the Indian Ocean region. Because its terms and principles are identical, the UK nuclear force deterrent is most frequently contrasted to the French nuclear deterrent in the context of France and the UK. France has 540 Nuclear warheads, and the UK has 225 Nuclear Warheads, but they are not in competition with China and India. (Mills, 2020). Both had also fought a war in recent years. Hence, they try to maintain peace in today's World. (Mills, 2022)

The mixture of the First entity (Nuclearization of the Indian Ocean) and Second entity (Foreign Policy of Nuclear Power in Indian Ocean Region) is that Pakistan's geostrategic location is noteworthy. The location of two main ports, i.e., Bin Qasim and Karachi are very near to the eastern borders. Because Pakistan does not have a nuclear Reactor technique and does not have Nuclear Ballistic Missile submarines, they were very costly for Pakistan's Budget. Pakistan could not afford to get involved in an arms race with strategic maritime alliances in the Indian Ocean. The greatest rival states, India and Allied Power China have more nuclear assets than Pakistan, hence, they are more powerful, with more submarine vessels in the Indian Ocean. Pakistan is at the crossroads that facilitates trade via the Indian Ocean. Every nuclear power in the Indian Ocean is trying to build up its naval influence because the United States is

aspiring to join the race of nuclearization of the Indian Ocean with Fleets and submarines due to the growing shadows of Chinese control (Ali, Shafique, & Waheed, 2023) Furthermore, the presence of nuclear power plants in the region is also increasing the risk of nuclearization. India and Pakistan both have operational nuclear power plants, while China is planning to build one in the region. These plants are vulnerable to accidents or sabotage and could lead to a nuclear disaster in the region. Nuclearization in the region is on the rise. This has serious implications for regional stability and security (Jalil, 2020).

Background of the Study

In the wake of the Indo-Pakistani nuclear tests in 1998, nuclearization in the Indian Ocean region has been a major concern for the international community (Baloch, 2017). India and Pakistan have nuclear weapons, and both countries are actively engaged in the development of nuclear-capable ballistic missiles. China has also been working on developing nuclear weapons and is believed to possess around 500 nuclear warheads. This has increased the risk of a nuclear accident or an accidental nuclear war in the region. In the recent course of years, Oceans have been playing a pivotal role as trade routes in the history of mankind and this fact does not change in the case of the Indian Ocean. Strategically, the Indian Ocean is the center of the navies of many countries. Major riparian Asian states are growing their influence in this region. Therefore, Pakistan and India appear to be strategic rivals likewise the USA and China. The US Military maintained its balance of power in the Indian Ocean because of Chinese dominance (Qayyum, 2021). However, US interest in the Indian Ocean region was also heavily influenced by the Middle East and the rivalry between the US and Iran. China is attempting to protect its stake in the choke spots in the Indian Ocean. China will not control choke points even though it controls the whole region (Zia, 2017).

In response to the increasing Nuclearization of the IOR, several countries in the region have been collaborating to ensure the safety and security of the region. India and Australia, for example, have signed an agreement on nuclear security and cooperation, while India and the United Arab Emirates (UAE) have signed a civil nuclear cooperation agreement. Additionally, the IOR nations have been engaging in dialogue on nuclear security issues at the regional and global levels (Qayyum, 2021). The increased nuclearization of the IOR is also being driven by the growing presence of nuclear power

plants in the region. India, for example, is in the build-up of more than 1000 nuclear reactors, more than half of which are located in India, in the Indian Ocean area. Large volumes of nuclear energy have been produced consequently, and this energy is being utilized to fuel the expanding economy in the area. The IOR is witnessing a rise in nuclear-armed warships and submarines, as well as the building of nuclear power stations. In recent years, nations like China, India, and Pakistan have all boosted their naval presence in the area, which raises the possibility of nuclear war in the IOR (Anderson, pp. P.7-9., [n.d.](#)).

India is the second natural key player in the Indian Ocean and the biggest military in this region. India is now equipping submarines with Nuclear Warheads has modified the security dynamics against China. India is a strong regional power in this region they were economically more stable. In addition, the increasing number of nuclear-capable states in the region has raised concerns about the potential for nuclear conflict. This is especially true for India and Pakistan, which have a long-standing territorial dispute and have fought three wars over the disputed Kashmir region. The presence of nuclear weapons in both countries has raised fears of a possible nuclear confrontation between the two countries. Therefore, India has two Nuclear Powered Submarines, one of which is INS Arihant class, and the other is the Ballistic Missile Submarine in the Indian Navy. Currently, India is expanding \$61 Billion on its Navy. But unfortunately, China is strategically and militarily well-established on all accounts so that's the reason behind India losing control over the ocean (Chen, [2020](#)). The foreign policy of nuclearization of the Indian Ocean refers to the strategic use of nuclear weapons and technology by countries in the region to enhance their security and assert their power. This policy is driven by a few factors, including the perceived threat of regional rivals, the desire to maintain strategic parity with other nuclear-armed nations, and the need to protect valuable economic and strategic assets in the Indian Ocean. According to Rostker, the main driver of nuclearization in the Indian Ocean is the perceived threat from regional rivals such as Pakistan and China. Both countries have nuclear weapons and are considered potential adversaries by many in the region. India has long been concerned about the growing military and economic power of China in the Indian Ocean and has sought to counter this by developing its own nuclear capabilities (Rostker, [2024](#)).

The aim to preserve strategic parity with other nuclear-armed countries is another reason for propelling nuclearization in the Indian Ocean (Factsheet, [2019](#)). Countries in the area, including Pakistan and India, want to make sure they have nuclear capabilities comparable to those of other superpowers, like Russia and the United States. This is thought to keep the balance of power in

the area stable and discourage any aggressors. Countries in the Indian Ocean are also motivated by the need to protect valuable economic and strategic assets in the region (Hashim, [2021](#)). The Indian Ocean is a major shipping route for oil and other natural resources, and countries in the region want to ensure that these assets are protected from potential threats. Nuclear weapons and technology can provide a powerful deterrent against such threats and are seen to ensure the security of these assets (Jan, [2019](#)). The foreign policy of nuclearization of the Indian Ocean is driven by a complex set of factors, including the perceived threat from regional rivals, the desire to maintain strategic parity with other nuclear-armed nations, and the need to protect valuable economic and strategic assets in the region (Nayan, [2022](#)).

Foreign Policy of Indian Ocean Nuclear Powers:

As mentioned in the Chinese Maritime Policy the Indian Ocean is Two national navy it means that escalating naval operations from the South China Sea and western Indo-pacific into the Indian Ocean, and the further is One Belt One Road Initiative has almost changed China's momentum (Baruah, [2022](#)). The Chinese government is the economic tycoon of the Indian Ocean. The major threats for China are the US presence in South Korea and Japan, securing commercial supply lines to other countries, and the Malacca dilemma. One Belt Road Initiative (BRI) is expanding to the Middle East and more opportunities for balancing US centralization in the Indian Ocean through submarine force (Qayyum, 2021). Pakistan Maritime Policy was approved in 2002. The new development in the Pakistan Navy is now protecting the promotion of maritime interest, infrastructure developments of coastal zones, and extending the navy budget. CPEC is the fate-changer for Pakistan (Khan, [2019](#)) Gwadar now appears as a huge deep seaport and military base alone. Currently, Pakistan must find coastal strategic depth in its territory (Jalil, [2020](#)).

Purpose of the Study

This research aims to examine the nuclearization of the Indian Ocean and its consequences for Pakistani state security. The role of the Indian Ocean as vital, along with the appearance of nuclear-capable submarines and ballistic missiles, has escalated tensions vigorously. Thus, this study intends to cover various factors relating to India's nuclearization process and the subsequent Pakistani responses comprehensively. This work, which adopts a qualitative research methodology, will examine why India chose to go nuclear, and how Pakistan viewed this process and responded to it. A similar analysis of the likely impacts of nuclearization on Pakistan's security will also be carried out, with some emphasis on the likely repercussions for the stability of the wider regional orders. This research aims at providing significant

valuable information to existing scholar's knowledge of this pivotal issue to contribute to policy formulation for improved peace and stability in the Indian Ocean region.

Objectives

1. To examine the reasons behind the direct and indirect drivers of the Nuclearization of the Indian Ocean
2. To evaluate the strategic implications of Indian Ocean nuclearization for Pakistan.
3. To explore the strategic options available to Pakistan to counterbalance nuclear threats from India.

Research Questions

1. What are the prime instigators of nuclearization in the Indian Ocean Region, and how do they influence the regional security dynamics?
2. What strategic ramifications does the nuclearization of the Indian Ocean have for Pakistan's marine security and how does it impact Pakistan's national security?
3. What are the possible advantages and disadvantages of each of the strategic alternatives Pakistan can use to offset India's nuclear capabilities in the Indian Ocean?

Significance of the Study

The nuclearization of the Indian Ocean poses a transformative challenge to regional stability, particularly for Pakistan. With India's development of nuclear-capable submarines and maritime missile systems, the Indian Ocean has become a key zone for power projection and military competition. For Pakistan, this expansion directly threatens its national security and marine interests, which include its coastline, sea lines of communication, and economic hubs such as Gwadar Port. The Indian Ocean is a crucial artery for world trade and energy sources, therefore nuclearization would be problematic not only regionally but globally. India's naval nuclear ambitions worsen military capability disparities, forcing Pakistan to adjust its deterrence policies, which include strengthening its naval assets and pursuing strategic alliances. This research is essential because it addresses the growing consequences of maritime nuclearization for Pakistan's strategic calculus and economic stability. It highlights the importance of strong policies to counterbalance this trend and protect Pakistan's interests. Furthermore, the study raises broader concerns, such as the dangers of unintended war and escalation in a nuclear-armed marine environment.

Literature Review

The literature review gives a clear and concise overview

of the main areas of the selected text. The study of the existing literature on the Indian Ocean region reveals a growing concern about the proliferation of nuclear-capable states and the rising potential of nuclear confrontation in the region. Kenneth McPherson, the author of *The History of the Indian Ocean Region: In his book, A Conceptual Framework*, that the Indian Ocean has always been a crucial communication route that provided access to many peoples to gain control of lands, to trade and to get influence (Mcpherson, 2015). George Fadli Hourani was a British philosopher and historian. He has primarily worked in the domain of the Indian Ocean. His work, *Arab Seafarers*, delves into the relationship between Arabs and the Indian Ocean. It highlights how Arabs relied on trade with Asia and East Africa. The Mediterranean, Red Sea, and Persian Gulf all play a significant role. The first Arab expedition to the Indian Ocean occurred in AD 636. The ancient Greek city-states of Athens and the Roman Empire built navies to secure their maritime frontiers and commerce with Africa and Asia, following in the footsteps of Arabs. Unregulated and unmanaged commerce weakened the empire from within, eventually causing it to disintegrate. The IOR's sovereignty changed hands several times after that, but the powers were generally of European origin. During the 18th century, the British dominated the Indian Ocean, dominating marketplaces and trading routes. The Indian Sea force was modernized to support the Royal British Navy throughout World Wars. (Hourani & Carswell, 2020).

In the article *Competition in the Indian Ocean* by Eleanor Albert, a member of the Council on Foreign Relations project on the New Geopolitics of China, India, and Pakistan, explains the importance of the Indian Ocean in today's competitive and petroleum-driven world that The Indian Ocean produces about 40% of the world's offshore petroleum, coastal beach sands, and offshore seas are rich in minerals, and fisheries are becoming more significant for both exports and local consumption. Several powerful nations, notably China, India, and the United States are fighting for dominance in the Indian Ocean, which is vital to international trade and security. Khurana (2018) asserts that terrorism, nuclear proliferation, and piracy are among the many security risks the Indian Ocean faces. According to Pant (2017), there is also a notable increase in naval presence in the area. The militarization of the Indian Ocean region has remained an emerging concern in antidote literature triggering fears of strategic instability in the realm. The use of nuclear submarines as well as ballistic missile submarines by regional powers such as India, Pakistan, and China has further aggravated the situation and increased the chance of nuclear warfare (Bajwa, 2019; Gopalswamy, 2020). This evolution of global politics has far-reaching effects on the world's ecological security,

humanitarian protection agenda, and global peace equilibrium. Another consideration of the Indian Ocean's nuclear armaments is the deficiency of existing maritime domains' regulatory policies/diplomacy and the apparent requirement for stronger tools to prevent the outbreak of their fifties (Kumar, 2018; Pant, 2017). It is imperative to appreciate the intricacies of the nuclearization process in the Indian Ocean in its various dimensions and their implications if effective policy intervention building blocks are to be envisioned.

B.M. Jain writes in the article *India's Security Concerns in The Indian Ocean Region: A Critical Analysis* that India, as a resurgent maritime nation, "has a wide spectrum of interests in the Indian Ocean, ranging from energy security to economic growth, sea lanes safety, and maritime ambition to the international community, that is also the security and cooperation in the order of the IOR. The country also has been rising the ladder in terms of military and economic capabilities which puts India in a good place to contribute to the development of the Indian Ocean by creating a blue economy that ensures sustainable and equitable economic growth and job creation. China's Marine Policy focuses on security and political stability, which are the two main objectives for the corresponding states, such as the Maldives, Mauritius, Seychelles, and Sri Lanka, as they deal with China's increased naval and strategic activities in the region. This is achieved through specific collaborations and the two countries' national interests. In his article, *The Perils of Naval Nuclearization and Brinkmanship in the Indian Ocean*, Iskandar Rehman explains how India has expressed interest in putting up a ballistic-missile defense (BMD) system in recent years to safeguard its vital cities and infrastructure. It appears that New Delhi has been pursuing both an indigenous system and collaborative ventures using American, Israeli, or Russian technology, even though proper and sometimes contradictory information on India's BMD development is lacking. As India attempts to establish a new multilayered defense system that combines medium-range Indian surface-to-air Akash missiles with the short-range Israeli Barak air defense system, numerous press reports, including *The Diplomat* and *NATO Annual Reports*, indicate that NATO has offered to share missile-defense technology with India. This is likely to cause concern in Pakistan (Rehman, 2012).

Pakistan, India's neighbor and a signatory of the Nuclear Non-Proliferation Treaty (NPT), also has an estimated 200-300 nuclear warheads, while China is believed to have around 250. (Butt & Siddiqui, *Growing Chinese Presence in the Indian Ocean*, 2022): The center of gravity for US Economic interests, foreign policy, and National Security is shifting towards Asia because of emerging nuclear powers like China, India, and Pakistan. US-Pivot is not counter to the growing implication of the

Asian Region interests, but they focus on the increasing power of China in the Indian Ocean. The US is interested in engaging with India for its objectives to encircle China under the Trump Administration. (Qayuum, 2021) (Chen, 2020) Presently, China is building up its naval power and advancing its technology and infrastructure like Aircraft Carriers because the US is deploying its fleets and submarines to maintain its influence in the Indian Ocean. Consequently, China is also trying to maintain a strategic position in the Indian Ocean for the protection of its interests (Qayuum, 2021; Butt & Siddiqui, *Growing Chinese Presence in the Indian Ocean*, 2022).

China's engagement in the Indian Ocean is one of the primary concerns raised by Wade Shepard in his essay, *China's Jewel in the Heart of the Indian Ocean*. He quotes scholar Dushni Weerakoon of the Institute of Policy Studies in Colombo as stating, "China's strategy to interact with all of these nations is to finance infrastructure and develop some of these important ports along the Silk Road, the One Belt One Road initiative (Shepard, 2016). Ejaz Hussain also agrees that it's time for India and Pakistan to prioritize collaboration over rivalry. Throughout history, Pakistan has attempted to normalize ties with India, but its efforts have been undermined by India's duplicity and insincerity. (Hussain, 2019). According to US Maritime Policy in the Indian Ocean, US interest is growing after the Arab-Israeli war. After this policy, the USA is concentrating on three main sectors. Firstly, Chinese control in the South China Sea and at the Malacca Strait. Secondly, the USA is securing International maritime trade routes like choke points of the Indian Ocean. Thirdly, Sino Indian contest and the US-Iran Combat on nearby the straits of Hormuz (Qayuum, 2021). The nuclearization of the Indian Ocean by India has changed the balance of security within the region. As stated by Pant (2017), the launch of India's first domestic nuclear-powered submarine, the INS Arihant, marks a turning point in the country's military deterrent capabilities. This development has been interpreted as a counter to the rising Chinese naval threat in the area (Khurana, 2018). Additionally, India has also been developing a ballistic missile defense system which is intended to shield these naval assets against nuclear attacks (Gopaldaswamy, 2020).

The move by India to nuclearize the Indian Ocean region has strategic significance in the context of the security of the southern Asian region. Bajwa (2019) notes that it is this new military capability that India now possesses that has boosted its chances of safeguarding its core strategic objectives in the region. But such development also creates apprehensions about nuclear wars occurring in the region (Wezeman, 2019). In general, the nuclearization of the Indian Ocean by India is a great change that shapes security in the whole region. Further in-depth analysis of the situation is necessary to

fully gain an understanding of this change and how it will influence the situation in the region in the future. The strategy has been to liquidate the nuclearization of the Indian Ocean and China has been doing this by employing, as mentioned before, a multi-pronged approach. Beijing has increased its naval presence in the region with more advanced nuclear-powered submarines and surface combatants (Pant, 2017, p. 32). In addition, Khurana, (2018, p. 20), states that China has also built a wide range of maritime infrastructure such as ports and logistics facilities to assist its navy. It has also been advocating the Belt and Road Initiative (BRI) in the area, which seeks to improve connectivity and cooperation in the economy of the region (Gao, 2020, p 15). To China, the Indian Ocean has become a primary theatre to showcase its nuclear strategy as well as protect its own crucial interests, retain the stability of key regions, and further assert its vision for a multipolar world (Bajwa, 2019, P. 18).

Abhijit Singh claims that Pakistan has turned to China, which is now the primary designer and sponsor of the Pakistan Navy, for help in overcoming India's maritime dominance. Beijing has emerged as the primary sponsor of the Pakistan Navy in the last ten years, giving it access to cutting-edge weaponry and fighting capabilities. These include the eight Hangor-class submarines that are to be acquired as part of the \$5 billion agreement. Let's just say that this is an amazing illustration of China's low-cost hardware: under the unfathomably drawn-out Project 75 (India), Pakistan is buying eight naval submarines for about the same price that India is buying six. The Pakistan Navy performs better operationally in the Arabian Sea thanks to type 054A/P frigates that were bought from China and equipped with mid-ocean multirole capabilities naval ships. To improve their operational efficiency, the Pakistan Navy and the People's Liberation Army Navy (PLAN) have participated in cooperative exercises like Sea Guardians. Both navies hope to limit India's growing influence in the Greater Indian Ocean Region. (Singh, *Assessing Pakistan's Naval Modernisation*, 2024). The Indian Navy's capacity to defend its maritime interests is at the center of China's nuclear strategy in the Indian Ocean system, which has caused India to become more and more alarmed. In the words of Khurana (2018), China has been utilizing both nuclear and ballistic missile submarines for deployment in the Indian Ocean, and this has emerged as an alarming threat to potential conflict in the region. Pant (2017) further expands on the situation by adding that China's nuclear missile development is deterministic of its objectives to disrupt the present regional continuity and augment its claim as a regional superpower. The validity of these claims regarding western Indian Ocean nuclear missile development and deployment poses multiple questions concerning the

regional security architecture.

In the views of Gao (2020), China's aircraft carriers and naval fleets display Chinese anti-access area denial capabilities that would gravely undermine India's and its regional allies' security and stability. Wezeman (2019) further expands on the situation by explaining how China's focus on the development of ballistic missiles severely reduces chances of nuclear recovery in case of an accidental discharge and the dangers involved in dumping such waste in water bodies. In the article *Nuclearization of Indian Ocean Region: Implications for Strategic Stability in South Asia* by Anum A. Khan, it has been highlighted that Pakistan will have to build its own guaranteed second-strike capabilities in response to India's nuclearization. To offset India's military achievements, this involves investing in antisubmarine warfare technology such as artificial intelligence-controlled unmanned underwater vehicles. (Khan, 2023). On the other hand, Christopher Clary and Ankit Panda write in the article that the Babur-3 missile from Pakistan is a nuclear missile with a second-strike capability. The submarine's deterrent status is enhanced since it may still retaliate even if the opponents attempt the initial hit that disarms Pakistan's capacity (Clary & Panda, 2017).

Pakistani experts advise employing two kinds of nuclear weapons to thwart India's anticipated missile defenses. Mansoor Ahmed of Quaid-e-Azam University's Department of Defence and Strategic Studies and Usman Shabbir of the Pakistan Military Consortium think tank both advocate the use of submarine-launched cruise missiles with nuclear warheads and land-based Shaheen II ballistic missiles fitted with MIRVs (multiple targetable reentry vehicles). Pakistan's worries over India's proposed anti-ballistic missile (ABM) defenses have led to these recommendations: Various military analysts have suggested alternative tactics Islamabad may employ to circumvent a functioning Indian system (Askari, 2012). Furthermore, The Maritime Policy Initiative at ORF is led by Abhijit Singh, a former navy officer and Senior Fellow. A marine expert with leadership and specialized expertise in Indian naval front-line vessels highlights that Owing to the modernization of his ambitious ambition to become a 50-ship force over the next ten years, the Pakistan Navy is once again in the world's eye. While we consider the Type 054A/P frigates, Babur-class corvettes, and the Hangor-class submarines into account, it is true that the Pakistan Navy is in the middle of strategic naval modernization. On the other hand, Admiral Tripathi questioning the "rationality", if not the wisdom, of "putting guns overgrowth" in a crisis-riddled Pakistan is important for the strategic rationale behind the plans for naval modernization. Internal political and economic crises that have plagued Pakistan for decades have been studied, but what is less understood is the motivation behind such excessive investment into Pakistan's naval. It

is a narrative that is constantly shaped by historical apprehensions, persistent insecurities, and the increasing presence of India in India's neighborhood (Singh, 2024).

The Indian Ocean's stability depends on the reconciliation of these disputes, achieving regional security, and controlling these emerging threats. Bitzinger (2017) has further responded to the generic threats of the Article. The Indian Ocean is becoming increasingly militarized. Several countries, particularly China and the US are deploying this region with advanced military capabilities. In addition, Bueger (2015) notes that the Indian Ocean is also grappling with nontraditional security issues such as climate change, maritime terrorism, and piracy. Bateman (2019) observes that the expansion of the Middle Eastern states into Africa signals that mercenaries and private military companies will become an issue in this region – thus further compromising naval security. There are serious security threats to the globe and the area from the nuclearization of the Indian Ocean. There are several tactics that can be used to de-nuclearize the Indian Ocean. Confidence-building measures (CBMs) between India and Pakistan can help lower tensions and avert nuclear war in the area, according to research by Chari (2023). According to a paper published in 2023 by the Stockholm International Peace Research Institute, creating a nuclear-weapon-free zone (NWFZ) in the Indian Ocean can also assist avoid this.

Material and Methods

Figure 1



Source: Chinese Political influence or Military presence from one side to the other oil routes (Mahinder, 2017).

The Chinese string of pearls was first proposed as a geopolitical concept by American geopolitical researchers in 2004. The term refers to a network of current and potential Chinese military and commercial ties and infrastructure extending from the Chinese mainland to Port Sudan on the Red Sea and in the Horn of Africa.

Within the post-positivist framework, this study is being carried out utilizing a qualitative research approach. To develop an understanding of the topic under investigation, an exploratory qualitative research approach is being applied. Primary and secondary sources are used to gather data. Official documents, reports, and doctrines are examples of primary sources of data; journals, articles, newspapers, and press releases are examples of secondary sources. Document analysis is used to accomplish data analysis. Using this strategy, the content of primary and secondary sources is analyzed, themes are found, and the material is grouped into relevant categories.

Dominance of Nuclear Power in the Indian Ocean Region

In the years to come, the Indian Ocean region will be the actual center of global conflicts and superpowers. Whether the battle for energy, independence, freedom of religion, and democracy is won or lost, the world's and the economy's major powers are there. One-fifth of the oceans on Earth are covered by this one. The Arabian Peninsula, Africa, the Bay of Bengal, and the coastal seas of India all enclose this ocean. 35% of the world's gas and 65% of its oil are found in the 36 littoral states. Every day, around 36 million barrels of petroleum and crude oil flow through the ocean. (Liping).

China is investing in littoral states and constructing a new port:

created. These points become even more crucial as China rises in power.

Many consider the Yulin Naval base on the Chinese island of Hainan to be the first pearl on the long thread that extends from China to the Red Sea and the Persian Gulf. According to reports, this important piece of military hardware has an undersea submarine base and is essential to China's position in the South China Sea, the next pearl. The Chinese presence on a collection of small islands in the South China Sea is the next pearl. China's dominance over the area has been further cemented by the militarization of many of these islands, such as Woody Island, which is the location of a Chinese airstrip (Manhas, 2020).

China has constructed a port in Chittagong in Bangladesh, which is similarly located in the Indian Ocean area. Bangladesh, meanwhile, is located on the Bay of Bengal. The Pearl Policy, a container shipping port facility in Bangladesh, was sponsored by the Chinese government. (Manhas, 2020). Bangladesh received a submarine from Chinese defense to protect the Bay of Bengal. Bangladesh's marine policy, however, makes it clear that the port is only open to commercial traffic and is off-limits to military ships. Furthermore, in order to accentuate China's strategic position, India has invested in technologically sophisticated infrastructure projects in Bangladesh (Shabbir, Malik, & Arshad, 2021). China sees Sri Lanka as a key ally in the Indian Ocean and for its Belt and Road project. Over time, China and Sri Lanka have built a strong relationship. This collaboration is shown by two prominent projects: a deep-water port operated by China in Gwadar, Pakistan, and a shipping center in Hambantota, Sri Lanka, which is sponsored by China. These developments alarm India and other neighboring nations. India is worried about China's increasing might because of its investment in Hambantota. The Indian government is likewise troubled about the Gwadar Port.

The Karakoram Road connects this port to the Arabian Sea. India sees this port as unmistakable proof that China and Pakistan are collaborating to undermine its economic and security objectives (Shabbir, Malik, & Arshad, 2021). The evolution of Hambantota includes the building of an airport, the use of a refueling base, the construction of a container port facility, and other IOR infrastructure. Constructing a bunker system for fuel supply.

The port of Hambantota in Sri Lanka is another example of a commercial gem. Because it overlooks the primary shipping route that links the strait of Molucca with the Bab El-Mandeb and Suez Canal, the port at Hambantota, in the far south of the island, has geostrategic importance. Following a controversial series of events, China expanded its control in December 2015 when it secured a 99-year lease over Hambantota (Gangte, 2020). Another significant jewel is the deepwater port at Gwadar, Pakistan, which is under Chinese control. It is an essential component of the China-Pakistan economic corridor's commercial infrastructure. Gwadar gives China a strong geostrategic footing because of its closeness to the Strait of Hormuz, a vital chokepoint for Chinese oil supplies. The port of Gwadar gives China and Pakistan a few strategic advantages. At the same time, the port is said to also help other rich resource countries that are landlocked by giving them a chance to export their resources through the port. As per the Government of Pakistan, the port of Gwadar is safeguarded from a potential Indian blockade of Karachi port, which is currently responsible for 90 percent of Pakistan's seafarer trade. It is located on the hi-tech crossroads of the oil exporting region of the Middle East, heavily populated Pakistan and Central Asia. A new port in Gwadar will enhance the geostrategic depth of Pakistan alongside the coastline of India (Rahman, Khan, Lifang, & Hussain, 2021).

Figure 2

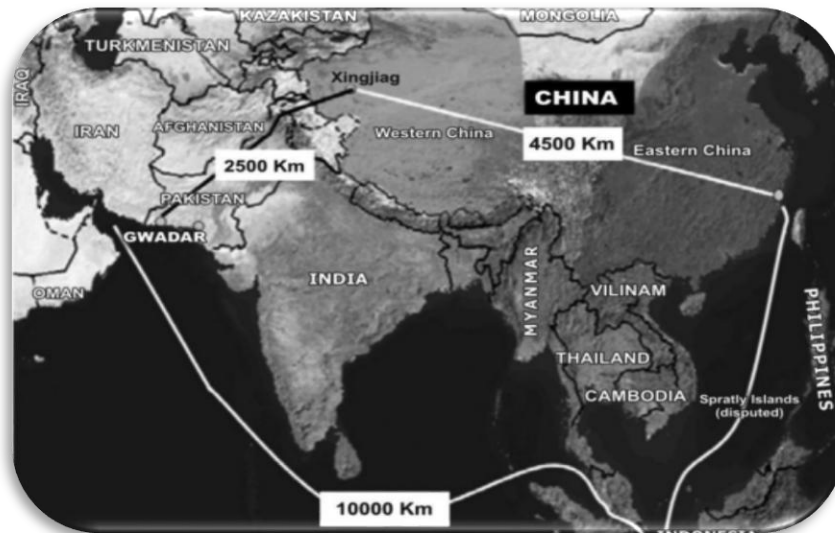


Source: Chinese oil supply route and ongoing from the South China Sea to Straight Gwadar port (Mahinder, 2017).

China is importing its oil from the Hormuz Strait. Very one active reason is that China has made a String of Pearls around India to secure its oil route. However, it has also made an impact on the African coast and the Middle East. In an effort to offset the growing American presence in the Middle East and the Indian Ocean region, China is reportedly building a military facility in Djibouti and has a significant presence in Kenya and Sudan on the

African coast of the Indian Ocean (Yin & Lee Lam, 2021). To assert its supremacy over IOR, China is moving more rapidly than before. The joint exercise between the warships of Pakistan and China in the Arabian Sea, close to the western coast of India in 2020, sends a single signal to the rival parties in the Indian Ocean area that the grand game in the region will not be exclusively the realm of India USA.

Figure 3



Source: The Shortest route from western China to Gwadar port (Rahman, Khan, Lifang, & Hussain, 2021).

Indeed, India has been working effort to counteract China's aggressive role in the Indian Ocean. The Indo-US alliance shouldn't shrug off its long-term understanding position and military presence in the area surrounding the Malacca Strait. On the other hand, the United States seeks to sustain its influence in South Asia, and India wants to keep the Indian Ocean wholly Indian. One active target is to set for both nuclear powers to have the same goal to improve their militarization and geostrategic partnership. (Butt, Kharl, & Bhatti, 2020) After 9/11, George H.W. Bush administration in his speech that India is to become a major power in Asia to compete with China. Similar goals and interests develop the best strategic partnership between India and the US to materialize. India is extending its reach in the Indian Ocean through diplomatic initiatives and active engagement with the littoral states, particularly with Seychelles, Mauritius, and Sri Lanka. India has signed a logistical deal with France, akin to the naval logistics pact it had with the United States, to expand its reach in the North Arabian Sea and Western Indian Ocean and improve its mobility. 65 In addition to fostering interoperability between the two militaries, the Varuna joint naval exercises between France and India were the biggest exercises ever held in 2019 and were centered on

ASW operations. According to Indian Foreign Policy, India is making a Necklace of diamonds to counter the Chinese policy of the String of Pearl. Maldives, Sri Lanka, Pakistan, and the additional ASEAN Countries wherever China is launching maritime bases which are called 'Pearl' this policy is all about rising shadows of military networks in the Indian Ocean region. Similarly, the Necklace of Diamond strategy contains the Chabahar port in Iran, Duqm Port in the Sultanate of Oman, Changi service Base in Singapore, and the Belief Islands in Seychelles. (Bhattacharya, Ray, Sinha, & Sachdev, 2020). Both countries' policies have been influencing the entire Indian Ocean region.

India has heavily invested in the eastern region. Furthermore, they have also aided ASEAN countries. They also constructed a naval base at the Andaman and Nicobar Islands in addition to augmenting their military vessels to protect their oil pathways in the Indian Ocean region. The Nicobar Island offers geostrategic positioning in the Bay of Bengal along with an entry to South Asia and the South China Sea, in addition, India has further developed facilities in the Andaman Islands and Campbell Bay in the Nicobar Islands located in the Bay of Bengal. With the aim of facilitating the positioning of more

aircraft, personnel, naval vessels, and drones in the Andaman and Nicobar Islands, a contract pertaining to the investment of 56.5 billion INR on the expansion of infrastructure in the region was authorized in 2019. These adjustments serve as a counter to the Chinese expansionism in the Indian Ocean region (Gosh 2020). In 2015, India signed a MoU with Mauritius and agreed to enhance their maritime facilities along with more advanced air and sea connectivity at Agaléga Island. The Agaléga Islanders are aware that the establishment of a naval station would force them to leave, but the Mauritian government has chosen to overlook this because they want India, their top source of FDI, to keep sending money through Mauritius to \$87 Million USD (Ghosh, 2020). Chabahar Port is a major Indian investment in the Islamic State of the Republic of Iran. This port is more significant than Gwadar and this port is situated on the mouth of the Hormuz Strait from where oil trade from the oil fields in Iran, Oman, Qatar, Kuwait Saudi Arabia, and UAE take place (Cooperation and Competition in the Indian Ocean, 2020).

To counter China's influence in Asia, particularly in the Indian Ocean region, India is strengthening its ties with several nations, including Sri Lanka, the United States, and Japan. India controls East policy to obtain additional support against China; following the South China Sea conflict, the majority of ASEAN nations are backing India. (Bhattacharya, Ray, Sinha, & Sachdev, 2020). ASEAN Countries are Singapore Myanmar, Indonesia, Laos, Malesia, Vietnam, Cambodia, Philippines, Thailand, and Brunei Darussalam. Recent developments have also made it apparent that India might be turning the Andaman and Nicobar Islands into a strategic fortress. India's 'Maritime Infrastructure Perspective Plan – 2025' highlighted developing island territories as the primary aim. As Global power USA has changed its economic interest, national security and foreign policy are shifting towards the Asia Pacific region. However, the US contains Chinese influence in the Indian Ocean and long-term multilateral relations with Pakistan and the littoral states (Chen, 2020). The USA has an eye on the South China Sea as well as the Indian Ocean with the establishment of advanced ports for long-term benefits (Owais, 2020).

Various Strategies of the US towards the Indian Ocean Region

The development of ports and military installations by nuclear nations, particularly China and India, is contributing to the growing nuclearization of the Indian Ocean. Everyone in this area is vying for control of the main chokepoints and the whole Indian Ocean. China and India begin playing a submarine game. Pakistan faces several security risks in the Indian Ocean region because of its high level of nuclearization. With the collaboration

of Indo-US strategic partnership and China. India and Pakistan are old rivals. Even though Pakistan faces other challenges and threats from terrorism, India is the most serious threat, so Pakistan's attention is focused on India. Due to oil-route security and the need for stability, the ocean is of great interest to nuclear power. Pakistan Maritime Security Governance contains within it a system for controlling the movement of shipping traffic. Through the participation of agencies which are part of the formal framework of the nation's policy collected. However, in the context of contemporary global requirements, maritime security calls for different treatment. There is a significant requirement for collaboration between internal security systems as well as local states to counter non-traditional safety threats on the seas (Tahir & Ejaz, 2020).

Pakistan is guarding the import and export passages that are immediately associated with the coastal areas. To ensure the fulfillment of its national interest, Pakistan strengthened its naval power as well as established stronger strategic ties with China. Pakistan will have to contend with non-traditional crimes in the future. But the defense of defunct vital maritime services from encroaches and onslaught of harm to sea facilities, commercial sea navigation, Container seaports, humanity, and nature are primary in these phenomena. These transnational challenges pose a threat to economic vessels and ways to the ports, which will probably cause an economic catastrophe and escalation of maritime warfare (Iftikhar, n.d.). China is joining forces with Pakistan through military, diplomatic economy, and other policies. For this reason, the United States and India are closely monitoring China's actions in the Pacific Region by holding extensive military drills. China is providing advanced surveillance facilities near the Gwadar port as well as maintaining its Radar System because of the Indian submarines trying to enter Pakistani waters.

Recommendation

The Arms Control and Disarmament Agreement and regional collaboration can lead to the denuclearization of the Indian Ocean area. To stop the spread of nuclear weapons and technology, the governments in the area must negotiate. This might involve pledges to cut back on the quantity of nuclear weapons they now possess or to refrain from creating or obtaining nuclear weapons in the future. To solve security issues and improve regional stability, regional institutions like regional security organizations are needed. This can lessen the chance of a nuclear escalation and encourage regional cooperation. They support a stable and secure environment for all the states in the Indian Ocean area and lessen the hazards connected to nuclearization. For the Indian Ocean area to become denuclearized, governments must cooperate and collaborate with one another.

Conclusion

In conclusion, Pakistan's security is significantly impacted by the nuclearization of the Indian Ocean region. Pakistan's security may be directly impacted by the increased likelihood of war and destabilization brought on by the region's nuclear weapons. Additionally, the pursuit of nuclear weapons by other nations in the region can trigger an arms race, further exacerbating regional tensions and undermining stability. To address these challenges, Pakistan must continue to prioritize its own

nuclear deterrent and maintain a credible capability to respond to potential threats. At the same time, it must also engage in diplomatic efforts to reduce regional tensions and promote stability in the Indian Ocean region. This may involve cooperating with regional actors, supporting international non-proliferation efforts, and participating in confidence-building measures. By taking a comprehensive and cooperative approach, Pakistan can work to mitigate the impact of nuclearization on its security and help promote stability and peace in the Indian Ocean region.

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