Indian Sea-Based Nuclear Developments: Impacts on Strategic Stability of South Asia

Mr. Usama Bin Ashraf[*]

Abstract

It is among one of the basic assumptions in the field of nuclear strategy that naval nuclear deterrent assets can stabilize the deterrence equation by generating an assured second-strike capability. As India has successfully tested its nuclear-powered ballistic missile submarine (SSBN), INS Arihant, thereby progressing towards an operational sea-based nuclear deterrent, this paper will critically evaluate the fundamental assumption of nuclear strategy about the possible role of submarine-based nuclear deterrent assets in establishing strategic stability. The paper explores and analyses the Indian sea-based nuclear developments and critical dimensions of maritime and nuclear security of South Asia. It examines the pragmatic conditions and environment under which this assumption worked during the Cold War and will evaluate that whether the extension of the same reason is possible for South Asia regarding sea-based nuclear deterrence. By analysing the Indo-China and Indo-Pakistan equations separately, this paper analyses the impacts of Indian SSBNs and INS Arihant on both equations. Principally, after achieving sea-based nuclear deterrent assets, India ideally would halt the development and advancement of conventional or nuclear capabilities as it will have attained more security vis-a-vis China, however, the evidence suggests otherwise. Indian SSBNs are not able to counter truly the concerns about China. This has a great potential to generate an arms race (either conventional or nuclear) in the maritime domain of Pakistan and China thereby causing crisis instability. The research conducted during this paper

[*] The writer has completed Masters in Defence & Strategic Studies from Quaid-i-Azam University, Islamabad.

determines that the realities of South Asia like geography, bureaucracy and operationalising mechanism do not necessarily accommodate the logics underpinned during Cold War era. Finally, this paper concludes that the fundamental assumption of nuclear strategy about sea-based deterrence failed that SSBNs always stabilize the deterrence relationships.

Keywords

Strategic Stability, Arms Race, South Asia, SSBNs, Crisis Instability, Indian Ocean Region (IOR)

1. Introduction

It is a fundamental approach of nuclear strategy that sea-based nuclear deterrent assets, that is, nuclear powered ballistic missile submarines can play a major role in stabilizing strategic and deterrence relationship between adversaries through providing an assured second-strike capability. In 1955, the American scientists were able to induce naval nuclear reactors on the submarine of the USA, which enables the submarine to remain fully submerged for longer periods of time as compared to that of standard diesel submarines which were required to surface after a short span of time to re-charge their batteries. Prior to that, the charging and refuelling of submarines, speed, detectability and global reach were some of the major challenges. However, after the introduction of naval nuclear reactors, submarines have become highly undetectable as they can remain submerged in water for several months and can be launched at distant missions due to increased speed. Therefore, the SSBNs can ensure the availability of nuclear assets, by making them harder to find, for a massive counter-value retaliation even if the counterforce first strike destroys the land-based nuclear weapons of the state.

India is progressing towards submarine-based deterrent assets by introducing the INS Arihant into the Indian Navy thereby revolutionizing its naval capabilities. The emerging global economic power, China, has already achieved its nuclear triad and is increasing its presence and influence in the Indian Ocean Region (IOR) (Thomas-Noone & Medcalf,

2015). Pakistan is developing its sea-based nuclear assets and is likely to achieve its own nuclear-powered ballistic missile submarine in the coming decade. The eagerness of India and Pakistan for the completion of their nuclear triad is hardly surprising due to the prevailing insecurity in South Asia. The induction of Arihant in the Indian Ocean signals an era like Cold War when the submarines of United States of America (USA) and Soviet Union (USSR) were at a risk of serious conflict leading towards nuclear exchange (Rehman, 2015). The role of sea-based deterrence during the Cold War was absolute. During the Cold War, the deterrence and strategic stability between USA and USSR were due to the strong concerns of Mutual Assured Destruction (MAD) which got strength by the second-strike capability provided by nuclear powered ballistic missile submarines of both superpowers. Traditionally, stability consists of two elements: crisis stability and arms race stability. In short, the sea-based nuclear assets played a direct role in achieving strategic stability during the Cold War between the USA and USSR (Freedman, 2003). The available literature of nuclear strategy generally argues that the SSBNs ensure the second-strike capability of a state. The second-strike capability of a state reduces the possibility of First Use by the adversary thus serves as a check-and-balance of arms race behaviour of states. Theoretically and principally, the possibility of arms race should be very low if a state has achieved an assured second-strike capability because the introduction of supplementary weapons will have no military utility.

This paper examined whether or not Indian SSBNs will be able to provide an assured second-strike capability which can ultimately deter the targeted adversary and establish strategic stability in South Asia. Furthermore, keeping in view the ground realities and security dynamics of South Asia, this paper elaborates the logic of sea-based nuclear deterrence which underpinned during Cold War era and examined whether the same reason is applicable for South Asia or not?

To address these questions, the paper initially explains the concept of strategic stability and deterrence at sea, and how the concept of strategic stability is linked with deterrence and got significant attention during the Cold War. It is argued that the strategic stability (arms race

stability and crisis stability) can only be maintained if both adversaries have an assured second-strike capability and if both sides are sure that their enemy will retaliate massively and cause assured destruction. Furthermore, the Indian sea-based nuclear developments and Pakistan's response has been explained in detail to understand the nuclear capabilities and ambitions of both states.

The paper concludes that Indian aspirations are not only to maintain strategic stability but also to achieve a blue-water navy status. Additionally, Indian huge investments and naval developments are pressurizing Pakistan not only to acquire its own nuclear triad but also to gain other supplementary conventional naval nuclear assets. Besides, the Indian command and control mechanism has no clear solution to the problem of communication with the deployed submarines and 'always-never dilemma' of nuclear doctrine. Moreover, this paper attempts to determine the ambiguity of command and control issues in Indian nuclear doctrine that can be misperceived by the adversary. The adversary like Pakistan can respond by decision making in a worst-case scenario as per their perception which may either cause crisis instability or catastrophic damage. It has thus been concluded that Indian sea-based nuclear developments caused a strategic arms race both on conventional and nuclear fronts vis-à-vis Pakistan. Lastly, the paper elucidates the impact of Indian sea-based nuclear developments on India and China relationship, especially in the context of crisis stability and arms race stability. The impact of Indian nuclear-powered ballistic missile submarines (SSBNs) has been discussed separately on both China and Pakistan. It is argued that Indian sea-based nuclear developments will not be able to cause major deviations in Chinese maritime policies (especially nuclear). Similarly, India will not be able to accomplish its strategic and maritime objectives vis-a-vis China such as to halt China's increasing presence in the Indian Ocean Region and engagements with the states in IOR. In the case of Pakistan, Indian ongoing nuclear developments have considerable potential to cause a serious arms race and crisis instability.

2. The Concept of Strategic Stability and Sea-Based Nuclear Deterrence

The concept of strategic stability in terms of deterrence, especially deterrence at sea, received considerable attention during the Cold War. Traditionally, stability consisted of two elements: crisis stability and arms race stability. It is argued that sea-based nuclear assets can maintain strategic stability only if both sides are sure that their enemy will retaliate massively and cause assured destruction. During the Cold War, the relationship between both superpowers was stable as long as they were sure that either side could retaliate in a devastating manner to a nuclear attack by the other. It was widely believed in scholarly and policy circle of USA that nuclear weapons at sea will be a great addition in the nuclear assets to strengthen the threat of massive retaliation for USSR. As per Bernard Brodie, nuclear submarines which can launch missiles "would seem to be a desirable supplement to a well-protected, land-based force, even if it proved to be … a costlier method in relation to effects achieved" (Brodie, 1959, p. 286). He was of the view that as submarines are undetectable in most of the cases, therefore it will be much harder to target the submarine in a counterforce assault. Hence, the submarine can be used for retaliation after bearing the first strike. In a counterforce attack, adversary's nuclear weapons along with the relevant command and control infrastructure are targeted; in counter-value attack, the civilian targets such as major populated metropolis are expected to be under attack or threaten for an unacceptable damage to engender deterrence by punishment.

Deterrence and strategic stability were initially discussed in writings on arms control by Thomas Schelling who argues that it falls in the common interests of both states to reduce the advantage of the first strike because of the possibility of war (Schelling, 1960, p. 894). He was very much assured that SSBNs strengthened and stabilized the deterrence. Albert Wohlstetter used the words "(looking) for miracles" for submarine-based nuclear deterrent assets (Wohlstetter, 1958). Although he wrote about the challenges of a submarine such as the problems of command and control, nonetheless was in the favour that sea-based nuclear assets always play a positive role in the strategic

stability. There are many authors who argued that, contrary to the early days of the Cold War, the submarine can cause severe crisis instabilities in case of unassured second-strike capability. For example, the write up of Barry Posen in early 1980's concluded that Submarine can generate escalatory pressure if the SSBNs were threatened or targeted by any side (Posen, 1982, p. 28). He argued that any defensive act of NATO can be perceived by the Soviets as an offence and can cause escalation (Posen, 1982, p. 31-33). After the end of Cold War, there is not much work done on the role of sea-based deterrence in the strategic stability of South Asia. Robert Glaser did some general work on this subject, but he also believed that sea-based nuclear deterrent assets like nuclear powered ballistic missile submarines may be less stabilizing than they were considered in past (Glasser, 1992). Hence, it is not necessarily true that SSBNs will always establish strategic stability. Strategic stability can only be maintained if both adversaries have an assured second-strike capability.

3. Indian Sea-Based Nuclear Capabilities

After the beginning of the Cold War in the 1940's, it was widely considered that nuclear deterrent is a necessary imperative to the emerging powers for the maintenance of strategic autonomy vis-a-vis potentially superior adversaries. It has been argued by different scholars that the most probable incentives behind the acquisition of nuclear arsenals, of India and Pakistan, were their conventional asymmetry vis-a-vis their adversaries. For example, the defeat of Indian forces in Indo-China war of 1962, border disputes between both and the nuclear test of China in 1964 were the major concern of India. However, the element of prestige was also included in the Indian decision to go for nuclearization (Rahman, 2016, p. 63). In addition, the main reason behind the Indian acquisition of SSBNs is similar to that of the USA during the Cold War. India raised her ambition of nuclear triad publicly in 1998. Indian officials argued that their quest for the nuclear triad is to cement their policies of No First Use and minimum nuclear deterrence. For example, Indian establishment declared just after the nuclear tests at Pokhran in 1998 that the future of minimum nuclear deterrence of India will be based on a nuclear triad comprised on land-based missiles, aircraft and

naval assets (Rahman, 2012). As per the wording of the draft report of Indian advisory board:

> "India's nuclear forces will be effective, enduring, diverse, flexible, and responsive to the requirements in accordance with the concept of credible minimum deterrence. These forces will be based on a triad of aircraft, mobile land-based missiles and sea-based assets in keeping with the objectives outlined above." (Indian National Security Advisory Board, 1999)

Indian sea-based nuclear development suggests that India is more eager to achieve a global power status rather than to maintain strategic stability and minimum nuclear deterrence. Moreover; due to security dilemma, Indian developments will pressurize Pakistan not only to acquire its own nuclear triad but also other supplementary conventional naval nuclear assets.

At present, India is the fifth largest naval power in the world and is continuously modernizing its naval capabilities to achieve blue-water navy status in the world not only to secure its interests but also to make the Indian Ocean as India's exclusive ocean (Nizamani, 2014). For example, till 2016 'the Indian Navy has a strength of 79,023 personnel and a large fleet consisting of 2 aircraft carriers, 1 GAH amphibious transport dock, 9 landing ship tanks, 14 frigates, 10 destroyers, 1 nuclear powered submarine and 14 conventionally powered submarines, 25 corvettes, 7 minesweeping vessels, 47 patrol vessels, 4 fleet tankers and various auxiliary vessels' (Jalil, 2014). India has planned to expand its naval power in half of next decade and has spent approximately USD 61 billion for this particular purpose (Tweed & Bipindra, 2015). To achieve the major power status, India is boosting its naval vessel manufacturing capacities along with import from abroad. India is also developing stealth destroyers, anti-submarine corvettes and stealth frigates (Bajpaee, 2015). Although consisting of two aircraft carriers named INS Vikramaditya and INS Viraat, India has ambitions for the development of the INS Vishal. The MiG-29K multirole aircraft and Kamov-28 and 31 helicopters are also induced in order to be deployed from the aircraft carrier. The maritime reconnaissance anti-submarine aircraft purchased from the Boeing Co. in 2009 for USD 2.1 billion will play an enormous

role in improving the Indian reconnaissance capabilities which will ultimately expand the Indian Navy's strategic outreach in the Indian Ocean Region (Khattak, 2011). The construction of Scorpenes with the help of France's DCNS at an estimated cost of USD 4.6 will enhance the country's submarine fleet and strength (Khattak, 2011). Unlike the conventional submarines, the Indian nuclear-powered submarine (SSN), INS Chakra (of Akula class submarines), equipped with three dozen 'torpedoes' and 'klub anti-submarine missiles', has a capability to be submerged for months. Moreover, India is trying to get a second Akula class submarine on lease from the Russian Federation in the near future. India has claimed that its nuclear triad has been completed with the operationalization of INS Arihant which can carry ballistic missiles. It was launched for trials in 2009 and has been declared operational when officials claim that, "it can be commissioned at any time" (Pubby, 2016). It has been claimed that it will carry two SLBM louder, more than a dozen K-15 or Sagarika missiles with 1000 kg warhead and more than 750 km range. Moreover, it can also carry four to six K-4 missiles having 2500 kg warhead and 35500 km range (The Times of India, 2009). At the time when Arihant was being launched on July 26 in 2016, the Prime Minister Manmohan Singh stated, "today we join a select group of five nations who possess the capability to build a nuclear-powered submarine," and then reiterated that it was a "special achievement" (The Times of India, 2016). A couple of more similar SSBNs including INS Aridhaman may also join the club in near future (Naqvi, 2016). As per the theoretical argument, if India has achieved second strike capability vis-à-vis China, then she will have to cut down her conventional military expenditure and conventional developments. Contrary to that; the above-mentioned facts and figures suggest that India is continuously increasing its conventional military developments and anti-submarine warfare assets rather than decreasing her conventional arms buildup. Thus; it can be argued that Indian ambitions are to achieve global blue water navy status. Moreover; Indian nuclear developments have a potential to cause strategic arms race at sea and crisis instability.

Furthermore, it is very interesting to mention that as per Indian claims, their nuclear posture has based on three main aspects; credible minimum nuclear deterrence, control of the nuclear arsenals by the

civilian leadership and No First Use (NFU) policy (Narang, 2013, p. 143). According to the official declaration of the Indian forces in Indian maritime document of 2007:

> "Our 'No First Use' policy amply illustrates India's intentions of using the nuclear deterrent only as a retaliatory measure of last resort. The sea-based leg of the nuclear triad enables a survivable second-strike capability and is, therefore, a critical enabler for the nuclear doctrine of 'No First Use' to attain credibility. … The nuclear submarine option is the preferred arsenal for small nuclear forces." (India's Maritime Military Strategy, 2007; Rajian, 2005, p. 243)

Unfortunately, the Indian nuclear doctrine has many ambiguities and loopholes which can ultimately lead towards misperception by the adversary. The misperception may lead towards worst-case decision making which can cause catastrophic damage. For example, the Indian command and control mechanism has no clear solution to the problem of communication with the deployed submarine and 'always-never dilemma'. The always-never dilemma means that the nuclear weapons should be ready to use always but can never be launched accidentally. Moreover, there must be the proper authorization of orders to launch nuclear weapons. In this scenario, the possibility of technological fault and personnel surety are major challenges. Furthermore, in case of a crisis, the submarine may lose its connection with the centre and remains unable to receive further instructions. Therefore, in this context, when the submarine force will not be able to reach civilian leadership, how the submarine force will respond? In addition to that, there are many important questions regarding Indian sea-based nuclear developments. It is ambiguous that Indian establishment will be able to provide the necessary investment and funds for the maintenance and sustainability of the submarine fleet. It is also not clear that who will fund the submarine fleet either the Indian Navy or another specific source. The maintenance of a flotilla consisting of four to five SSBNs on constant operational mode would require a considerable budget which will be a big issue in case of India as Indian Navy got only 15 % of the overall defence budget (Cohen & Dasgupta, 2010). Hence, this ambiguous situation suggests

that the Indian bureaucracy will hardly be able to manage the necessary subsurface capabilities for an operational SSBN including the required associated weapons, repairing mechanism for the ships and the logistical infrastructure to keep at least one nuclear submarine at sea (Wueger, 2015, p. 63). Similarly there are serious concerns of strategists and military officials about the operationalization of Arihant, its sister SSBNs and the missile testing of K-4 and Sagarika (Rahman, 2012, p. 68). As the Indian second-strike capability is based on its only SSBN fleet, its credibility can be challenged in case of an accident or loss of SSBN which will jeopardize the whole second-strike structure. The civilian control over the naval nuclear assets of India is also ambiguous due to which the credibility of the second strike can be negatively affected along with crisis instability. If adversary like Pakistan believes another way that Indian sea-based deterrent assets are not in civilian control the response will be different, as "in deterrence, only perceptions matter and there is a disturbing build-up of literature indicating that the disbelief of others in our nuclear command and control is in urgent need of correction" (Menon, 2014). Therefore, the Indian second-strike capability cannot be claimed an assured second-strike capability. Thus, the INS Arihant will not be able to maintain strategic stability.

4. Tit for Tat: Pakistan's Quest for Nuclear Triad

Pakistan has always been a reactionary state as it always reacted in a "tit-for-tat" manner to the military developments by India. As a response to Indian development of nuclear weapons, Pakistan has started to achieve the capability to secure the parity vis-a-vis its adversary (Khan, 2015). Pakistan, as per their official claim, has been facing severe existential threats from India especially after the Fall of Dhaka in 1971, in which Indian intelligence agency RAW and armed forces played a great role. An Indian intelligence officer, RK Yadav noted about the role of RAW and Indian government in the dismemberment of Pakistan,

> "Since the Indian Army was not prepared and well-equipped for an immediate army action at that point (March 1971), it was planned to raise and train a guerrilla outfit of the Bengali refugees of East Pakistan by RAW which would harass the Pakistan Army till the Indian Army would be ready for the final assault to the liberation of

> East Pakistan. She (Indira Gandhi) then asked R.N. Kao, Chief of RAW, to prepare all possible grounds for the army for its final assault when the clearance from General Manekshaw was received for its readiness for the war." (Yadav, 2014, p. 231)

Moreover; in 1999, Pakistan was also fearful of a pre-emptive seizure or strike on its land-based nuclear assets (Javeed, 2001). The several economic strangulations of Pakistan happened during different conflicts with India especially after the Kargil War in 1999-2000, when 'Indian Navy threatened a blockade by establishing a cordon sanitaire around the port of Karachi', puts a great impact on Pakistan's thinking about the Maritime dimension of its forces (Rehman, 2015). Moreover, the Kargil war gave a signal of the possibility of a limited war between both nuclear adversaries. In case of a limited war, Pakistan would have been at disadvantage due to its asymmetric military balance compared to India. Moreover, Indian Cold Start Doctrine (CSD) is another motive for Pakistan to revisit and enhance its nuclear posture, policy and strategy (Rahman, 2012). India is actively working on its strategic assets whether in nuclear missile development or Ballistic Missile Defence mechanisms. The huge conventional forces of India and advancements of nuclear assets along with the achievement of sea-based deterrent capabilities have been destabilizing not only the relationship between both India and Pakistan but also regional strategic balance.

Some accounts argue that Pakistan has been forced to achieve credible minimum deterrence posture at all levels and dimensions to ensure its survival against India. They argue that 'in response to the Indian naval nuclear capability, the development of a Pakistan's sea-based nuclear capability was inevitable and by avoiding a nuclear arms race, Pakistan only aimed at developing credible sea-based deterrent assets' (Mustafa, 2017). Pakistan's foreign office spokesperson, Abdul Basit, in 2009, stated that "induction of new lethal weapon systems as detrimental to regional peace and stability and without entering into an arms race with India, Pakistan will take all appropriate steps to safeguard its security and maintain strategic balance in South Asia" (DAWN, 2009). The above discussion concludes that Pakistan was left with no option but to be a part of another dimension of the strategic arms race.

Although Pakistan's officials claimed that Pakistan will not indulge into arms race but that is inevitable (BBC, 2009). Commander Muhammad Azam Khan of Pakistan Navy noted that the launch of INS Arihant was the initial step towards the nuclearization of the Indian Ocean. Moreover, it has the potential to trigger an arms race by denting the strategic stability in South Asia (Khan, 2010). Some sources argued that Pakistan Navy was considering the plans to deploy weapons upon its conventional submarines abroad, some nearly a decade before the Arihant episode, as Pakistan Navy shared the views publicly in 2001 (Los Angeles Times, 2001). However, research shows that India was already building its sea-based deterrent assets, as discussed in the previous section, and Pakistan was responding to the developments by the Indian forces. This was further reiterated in 2003 when the then Chief of Naval Staff of Pakistan, Admiral Shahid Karimullah, responded that the test of short-range Agni-1 was not unexpected as India wants its hegemony in the region and Pakistan will not hesitate at all to take any step if it felt so compelled (Philp, 2003).

In response to the Indian aspirations to achieve nuclear triad status, Pakistan has been trying to achieve a credible second-strike capability to maintain strategic stability. For example, In May 2012, the then Chief of the Naval Staff, Admiral Mohammad Asif Sandila, stated at the inauguration of the newly constructed Headquarters of the Naval Strategic Force Command (NSFC) that 'the force which is the custodian of the nation's 2nd strike capability will strengthen Pakistan's policy of Credible Minimum Deterrence and ensure regional stability' (ISPR, 2012). Furthermore; Pakistan has successfully conducted the test of Submarine Launched Cruise Missile, Babur-3 which was under the "tutelage of Pakistan's Maritime Technologies Complex" on January 09, 2017 (Khan, 2012, p. 380; Mustafa, 2017). According to the press release of ISPR, Pakistan conducted its first successful test fire of Submarine Launched Cruise Missile (SLCM) Babur-3 having a range of 450 kilometres. Babur-3 is a sea-based variant of Ground Launched Cruise Missile (GLCM) Babur-2 which was successfully tested earlier in December 2016. Moreover, as per the press release, "Babur-3 incorporates state of the art technologies including underwater controlled propulsion and advanced guidance and navigation features, duly

augmented by Global Navigation, Terrain and Scene Matching Systems" (ISPR 2017). Babur-3 also integrates certain stealth technologies, terrain hugging and sea-skimming flight capabilities, and can carry different kinds of payloads (Mustafa, 2017). Hence, it can be argued that Pakistan has successfully ensured credible minimum deterrent assets (with second strike capability) and tried to restore the strategic balance which was disturbed by the Indian test of K-4 Submarine Launch Ballistic Missile having a range of 3000-3500 km. Hence, keeping in view the above discussion, it can be argued that Pakistan has tried to achieve strategic stability in the South Asian region by enhancing its nuclear posture without compromising its national security. However, keeping in view Pakistan's aspirations and timely response to Indian sea-based nuclear developments, it is transparent that a new dimension of a strategic arms race between India and Pakistan has been initiated. Moreover, Pakistan has achieved a second-strike capability although not assured but credible enough to deter the Indian aggression jeopardizing the Indian nuclear superiority. Thus, the Indian sea-based nuclear developments are not playing a stabilizing role in the strategic scenario of South Asia.

5. Implications for Strategic Stability of South Asia

The maritime environment of South Asia is becoming highly alarming, unstructured and turbulent due to increasing power play of global and regional powers. The naval frictions, misperceptions and induction of nuclear assets are deteriorating the regional peace and corresponding maritime challenges has been evolving. The credibility of the second strike of India is not clear, therefore this ambiguity has serious repercussions for India's relationship with its neighbours especially China and Pakistan. The operational realities of South Asia are more dangerous as compared to the Cold War era when the distance between the adversaries was large thus adding a sense of security. But in South Asia, nuclear states are not only sharing their major borders but also create a nuclear ring on the longest issue of UN, the nuclear flashpoint, Kashmir. In this section, the possible potential impacts of Indian sea-based nuclear deterrent assets on China and Pakistan are uncovered with a special focus on arms race stability and crisis stability. Based on the literature reviewed, it is likely that Arihant will not be able

to cause major changes in Chinese maritime policies (especially nuclear) and India will not be able to accomplish its strategic and maritime objectives vis-a-vis China. In the case of Pakistan, Indian ongoing nuclear developments have considerable potential to cause a serious arms race and crisis instability. In addition, it could force Pakistan's strategic decision-makers to revise the country's nuclear posture. Moreover, Pakistan can feel pressurized to acquire not only its own credible second-strike capability to maintain strategic stability but also additional conventional naval arsenals.

5.1 Indo-China Equation

Although the Indian acquisition of nuclear weapons was due to its antagonist relations with China since 1962 the factor of prestige and internal bureaucratic politics also played a major role. Indian ambition to be the sole regional power was always countered by the Chinese policies. However, India has serious concerns about the increasing Chinese influence and presence in the Indian Ocean Region. The 'string of pearls', One Belt One Road initiative (OBOR) and other agreements with Indian Ocean Region states were perceived negatively not only by India but also the USA. 'String of Pearls' is a geopolitical theory, illuminated in Indian literature, about the tentative network of Chinese intentions in India Ocean Region (IOR). Briefly, it is about the network of Chinese military and commercial developments in the counties which lies in the Indian Ocean Region from China's mainland to Port Sudan. Similarly, one belt one road initiative or belt road initiative (BRI) is a Chinese project to develop trade routes between China and the countries in Central Asia, Europe and Indo-Pacific littoral countries. Therefore, it is argued that the main concern of India vis-a-vis China is China's increasing presence in the Indian Ocean Region and engagements with the states in IOR. In short, due to the expansion of Chinese naval power and maritime ambitions, India is concerned about the maintenance of already existing status quo. Richard D. Marshall noted precisely,

> ". . . China has been developing a network of naval bases in South Asian littoral nations as a means to [sick] project maritime power into the Indian Ocean and beyond to the Middle East. Contrary to Indian perceptions, Chinese activity in the littoral nations has, to

> this point, been primarily economic, not military in nature. Nonetheless, this activity has prompted a change in Indian naval doctrine to support the employment of a blue water navy. . . Indian National Security Elite, when faced with the perceived loss of power and influence on China in South Asian waters, endorsed blue water naval doctrine as a means to [sick] re-establish the status quo of relative naval superiority in the northern Indian Ocean." (Marshall, 2012, p. 5)

As China and India are major trade partners, therefore, there is a possibility that this partnership could stabilize their relations. But, the world had seen during the World Wars in the early 20s that this reason badly failed. Moreover, both China and India are emerging economies, hence, they both need an ample amount of energy to fulfil their growing demands. Both states may feel as competitors for their quest of securing energy resources to sustainably continue to grow. Shortage of electricity and oil in the consumer demands in India, and to an extent in China, serves as a major drive behind their quest for energy resources. China is also building China-Pakistan Economic Corridor (CPEC) with Pakistan which is expected to assist China to meet its demands for energy consumption. On the other hand, India's current oil consumption is expected to be doubled by 2025 which will most likely be met from Gulf region imports (World Energy Outlook, 2015). The competition vis-à-vis energy is likely to negatively impact the Indo-China relations. As per the analysis of Ladwig, India is currently focusing on expanding its area of interest and influence from the Strait of Malacca to the Persian Gulf to meet its future objectives about energy and maintaining influence (Ladwig, 2010). The trade and energy competition between China and India can bring the strategic factor as formal Chief of Indian Navy stated in 2009, "it is time for India to shed her blinkers and prepare to counter PLA Navy's impending power-play in the Indian Ocean" (Mathew, 2009). Moreover, deployment of submarines by PLA Navy into the IOR and development of Chinese naval network across Indian Ocean Region has been declared by Holmes as the potential naval cause for the Indo-China antagonisms (Holmes & Yoshihara, 2013). In addition, these concerns are further cemented by the report of Indian Defence Ministry in 2013 which argued that China is sending its offensive submarines with

the focus to deteriorate Indian sensitive Sea Lines of Communication: 'According to the report, titled *Indian Navy: Perceived Threats to Subsurface Deterrent Capability and Preparedness*, the "implicit focus" of the PLAN appeared to be undermining the Indian Navy's ability "to control highly sensitive sea lines of communication" within the region' (Cole, 2013).

Indian officials argue that the basic purpose of their sea-based nuclear developments is to deter China and counter Chinese influence in IOR. However, this paper argues that it is still ambiguous as to what kind of actions will be deterred by the SSBNs potentially. In short, there is no logical mechanism by which it can be declared that Arihant is capable to deter Chinese forward deployment in IOR. Moreover, if the Indian k-4 missiles do not become ready to be operationalized for Arihant, the credibility of Indian second-strike vis-a-vis China will not be assured. Similarly, the threat of Chinese anti-submarine warfare, either air based or surface-based, will be a major challenge for Indian SSBNs if India were to move towards South China or the Yellow Sea to check Chinese counter-value targets at risk. However, If India successfully achieved an assured second-strike capability vis-a-vis China, it will not invest into conventional arms build-up. Surprisingly, still, there is not a considerable cut in Indian defence budget. Moreover, for China, Arihant is arguably not a serious threat as "China has lived with the vastly more substantial submarine presence embodied by the U.S. Navy for many years. It will understandably regard the seagoing Indian deterrent as a lesser included case for peacetime strategy" (Winner, 2012). Therefore, China will not change its nuclear posture but may increase its surveillance activities in the Indian Ocean Region against Indian SSBNs. As India has limited number of SSBNs, on its detention by China, crisis instability can escalate. Moreover, if China keeps on enhancing its conventional anti-submarine warfare assets, aimed to counter the threats posed in South China Sea, India can perceive threats and hence there could be a possibility of the arms race and crisis instability in the conventional field.

5.2 Indo-Pak Equation

Pakistan came into being after a great struggle for independence, with the immense suffering of thousands of its citizens, on August 14,

1947 (Talbot, 2009). Pakistan was created based on the Two-Nation Theory (TNT) while India still believes in its Akhand Bharat philosophy (Yadav, 2016). TNT means that Muslims and Hindus are two completely different nations while Hindus believe that the whole region of sub-continent belongs to them and they will have to establish their own rule in the whole territory including India, Pakistan, Nepal and Bhutan. Pakistan has faced four major wars and multiple confrontations in its age of 68 years out of which ninety per cent were with India. The two countries have fought four wars (1947–1948, 1965, 1971, and 1999) and countless skirmishes at their volatile border. Compared to India, Pakistan lacks in its conventional military capabilities. The increasing defence budget of India especially after the hardliner BJP government (in 2014-15 '12.43' per cent increase as compared to 2013-2014), naval nuclear developments, Indian growing economic and military capabilities, non-state actors and Indian military policies vis-a-vis Pakistan like Cold Start Doctrine are major reasons behind unstable relations between both states (Mustafa, 2015). India accuses Pakistan of supporting non-state actors, which can be understood keeping in view the stability-instability paradox (Krepon, 2003). It has been argued by different scholars that Pakistan has been supporting non-state actors in India especially in Kashmir since first Kashmir war 1948 to counter conventionally superior adversary. For example, Kapur noted, "(Support of) jihad has been one of the principal means by which the Pakistani state has sought to produce security for itself. Far from an unmitigated disaster, the strategy has enjoyed important domestic and international successes" (Kapur & Ganguly, 2012, p. 112). However, there is an insufficient amount of evidence brought forward by this argument as both states remain engaged in a blame-game tactic since 1947. However, whether Pakistan supports non-state actors or not, but their role is very important in Indo-Pak relations. Any act by non-state actors can be misperceived and can lead to a severe crisis instability. The military standoff of 2002-03 after the attack on Indian Parliament in 2001 was a severe case when both nuclear nations were on the edge of a war.

Indian Cold Start Doctrine (CSD) to undermine Pakistan without crossing Pakistan's nuclear threshold was a development in recent years by Indian side which was perceived as a serious threat by Pakistan.

Pakistan actively responded to the Indian CSD under which India was planning to attack Pakistan and hold territory without the possibility of nuclear exchange. The induction of "Tactical Nuclear Weapons (TNW)" into Pakistan's nuclear assets was a step to assure India that any kind of border crossing would result in the escalation which might lead towards nuclear exchange (McCausland, 2015). India can easily act aggressively in the case of an incident like Indian Parliament attack 2001 or 2008 Mumbai attacks. Thus, the main challenge faced by India from Pakistan, as per Indian claims (continuously rejected by Pakistan), is violent non-state actors. At the same time, Pakistan feels threatened against a conventional attack by India-conventionally three times stronger than Pakistan. Thus, Indian SSBNs or second-strike capability will not be of much use to counter the threat posed by non-state actors.

In the evolution of impacts for the arms race between Pakistan and India, it can be argued that the threat of first strike and elimination of all nuclear assets is not currently present. The major fear can be in a conventional realm that can escalate the tensions up to the level of nuclear exchange. As a result, the Indian SSBNs can generate instability in the region. Although the Indian policy-makers and intellectuals are arguing otherwise, however, this paper argues that the introduction of Arihant has forced Pakistan to respond and forced to indulge in an arms race (Wueger, 2016). The biased approach and blaming nature of Indian officials can be witnessed by the argument of Admiral Menon that Pakistan's threat perception about the Arihant is due to its own preoccupations and predispositions regarding India. He also blamed that 'the Indo-Pakistani nuclear relationship has admittedly begun an incipient arms race, mostly because of the head start Pakistan gets from illegal Chinese assistance.' The use of the word "illegal" by the Admiral indicates the blaming and biased mentality vis-a-vis Pakistan, this paper argues. The Arihant along with other expected SSBNs will cause the naval nuclear build up in Pakistan to respond actively. As Pakistan has deployed its nuclear warheads on "Agosta 90B diesel-electric submarines, which have reportedly been modified to enable SLCM launches," there is a possibility of crisis escalation if Indian forces were to attack Agosta 90B carrying nuclear weapons even accidentally (Panda & Narang, 2017). India may attack the submarine considering it to be a

conventional submarine but Pakistan will perceive it as an attack on Pakistan's strategic assets and second-strike capability. Thus, the possibility of crisis escalation is there in case of such an incident. Moreover, it is argued that there are clear possibilities of an arms race both nuclear and conventional at sea as Pakistan is already negotiating with its "all-weather friend" and strategic partner, China over the "purchase of six AIP-equipped Yuan-class submarines" (Dasgupta, 2014). Hence, it is argued that the Indian naval nuclear developments are undermining the regional stability rather than the other way around. As per a defensive realist interpretation by Kenneth Waltz, Pakistan must have, at least, minimum nuclear deterrent assets to defend its vital interests at the sea as Pakistan is going to be more dependent on the sea after the completion of CPEC and Gwadar (Waltz, 1978). Considering the preceding arguments, this paper argues that a stable nuclear deterrent relationship between India, Pakistan and China is necessary for the regional peace and stability in South Asia. Pakistan's quest for the nuclear triad will not only provide it with a better sense of security but also help to generate strategic stability in South Asia. The Indo-Pak disputes need to be settled for which the international community can play their due role to avoid any escalation in future.

6. Conclusion

The introduction of INS Arihant along with other expected SSBNs will slightly add to the Indian deterrent posture but will generate the trends of arms race vis-a-vis Pakistan. Moreover, the Indian sea-based nuclear developments especially Arihant is leading to a great potential of crisis instability vis-a-vis China as well as Pakistan. The Indian naval nuclear assets are not enough to generate strategic stability or parity against China and the lack of trust between Pakistan and India will not help the strategic stability. Similarly, the longstanding conflicts between Pakistan and India are also deteriorating the regional peace and development. Indian defence ministry is facing serious challenges in terms of financial assistance for the underwater naval assets and advanced technological ASW competences which will negatively affect the credibility of emerging second-strike capability of India. Unfortunately, the logic underpinned in Cold War deterrence is not

applicable in the case of South Asia suggesting that sea-based deterrent assets may cause more harm than good. Troublingly, the trends of dialogue, CBMs and different crisis avoiding mechanisms like early notification are fractured and thin in South Asia. The poor command and control structure of Indian strategic forces can also be dangerous in this aspect. The operational realities of South Asia are more dangerous as compared to the Cold War era when the distance between the adversaries was large thus adding a sense of security. But in South Asia, nuclear states are not only sharing their major borders but also create a nuclear ring on the longest issue of UN, the nuclear flashpoint, Kashmir. It is unlikely that China will feel deterred by Indian sea-based nuclear assets as it has not been deterred by the presence of global powers in its surroundings. However, the induction of Arihant further decreased the possibility of the first strike against India by China. However, Arihant is being perceived as a serious threat by Pakistan. Pakistan is likely to respond the Indian sea-based nuclear developments provocatively. Pakistan's aspirations suggest that it may continue to advance its ASW and nuclear assets at sea. Once again Pakistan may be forced at a position where it has to decide to eat grass for the development of 'Nuclear Powered Ballistic Missile Fleet' to achieve assured second-strike capability. Furthermore, there are serious concerns about assurance of Indian second-strike capability. Moreover, the Indian nuclear posture is not credible enough to deter China properly and not minimal as it is more about power projection. India's development of its naval nuclear leg is more due to its prestigious ambitions like to achieve the status of regional power, permanent seat of UNSC, making the Indian Ocean as India's Ocean and less of security concerns. It would not be able to reverse the developments to roll back realistically so there is a need to find different possible scenarios to limit and manage the issue at hand to get the region and globe more stable and secure. China can play a great role for strategic stability in South Asia because of its increasing influence and presence in Indian Ocean Region. Any kind of confrontation or hostility will not be in favour of the China, India or Pakistan. There always exists a place of cooperation and collaboration among states which of course emerge from within the states. Therefore, the regional states can have their bilateral or multilateral treaty about the

nuclear assets at sea and regional stability. The global power will be trusted as neutral at all for conciliation. Fortunately, the 21st century has been declared as Asia's century and with-in Asia, Indian Ocean Region, major choke points of the world, major markets of the world lies in South Asia. Therefore, South Asia will be able to lead the whole globe within decades if the Pakistan-China-India triangle becomes supportive of each other and try to solve their internal conflict via table talks.

References

Bajpaee, C. (2015, February 23). Naval Build-up Reflects India's Ambition to Project Power. Interview by Srinivas Mazumdaru. *Deutsche Welle*, Retrieved May 03, 2017 from http://www.dw.com/en/naval-buildup-reflects-indias-ambition-to-project-power/a-18275292

Brodie, B. (1959). *Strategy in the Missile Age*. Princeton, NJ: Princeton University Press.

Cohen, S. P., and Sunil D. (2010). *Arming without Aiming: India's Military Modernization.* Washington, DC: Brookings Institution Press.

Cole, J. M. (2013, April 9). Red Star over the Indian Ocean? *The Diplomat*, Retrieved March 07, 2017 from http://thediplomat.com/2013/04/red-star-over-the-indian-ocean/

Dasgupta, S. (2014, March 01). Pak Set to Get Chinese Submarines amid Sub Crisis in India. *The Times of India*, Retrieved March 20, 2017 from http://timesofindia.indiatimes.com/world/china/Pak-set-to-get-Chinese-submarines-amidsub-crisis-in-India/articleshow/31191301.cms

Freedman, L. (2003). *The Evolution of Nuclear Strategy 3rd ed.*, New York: Palgrave Macmillan.

Freedom to Use the Seas: India's Maritime Military Strategy. (2007). New Delhi: Integrated Headquarters, Ministry of Defence.

Ganguly, S., and S. Paul K. (2012) *India, Pakistan, and the Bomb: Debating Nuclear Stability in South Asia.* New York: Columbia University Press.

Glasser, R. D. (1992). Enduring Misconceptions of Strategic Stability: The Role of Nuclear Missile-Carrying Submarines. *Journal of Peace Research 29, no. 1*, 23-37.

Holmes, J. R. and Toshi Y. (2013). "Redlines for Sino-Indian Naval Rivalry." in *Deep Currents and Rising Tides: The Indian Ocean and International Security*, edited by John Garofano and Andrea J. Dew. Washington, DC: Georgetown University Press.

India Energy Outlook. (2015). *International Energy Agency*, Retrieved March 20, 2017 from https://www.iea.org/publications/freepublications/publication/IndiaEnergyOutlook_WEO2015.pdf

India Has No Aggressive Design, Says PM. (2016, July 26). *The Times of India*, Retrieved February 17, 2017 from http://timesofindia.indiatimes.com/india/India-has-no-aggressive-design-says-PM/articleshow/4822040.cms

India Submarine Threatens Peace. (2009, July 28). *BBC News*, Retrieved March 17, 2017 from http://news.bbc.co.uk/2/hi/8171715.stm

Indian National Security Advisory Board, "Draft Report of National Security Advisory Board on Indian Nuclear Doctrine." (1999, August 17). Retrieved January 2, 2017 from http://shodhganga.inflibnet.ac.in/bitstream/10603/7823/11/11_annexture.pdf

Indian N-Sub Detrimental to Regional Peace. (2009, July 28). *Dawn*, Retrieved January 25, 2017 from www.dawn.com/news/853249/indian-n-sub-detrimental-to-regional-peace-fo

Jalil, G. Y. (2014, October 14). Analysis of Indian Naval Capabilities: Implications for Pakistan, *Issue brief of Institute of Strategic Studies, Islamabad*.

Javeed, N. (2001, December 22). Indians Aiming at Strikes on Pakistani Nukes. *News–Pakistan*, Retrieved March 26, 2017 from www.rense.com/general18/indiansaimingatstrikes.htm

Kapur, S. P., and Sumit G. (2012, July). The Jihad Paradox: Pakistan and Islamist Militancy in South Asia. *International Security 37, no. 1,* 111-41.

Khan, F. H. (2012). *Eating Grass: The Making of the Pakistani Bomb*. Stanford, CA: Stanford University Press.

Khan, M. A. (2010, Summer). S-2: Options for the Pakistan Navy, *Naval War College Review, Vol. 63, No. 3,* 85-104.

Khan, Z. (2015, Winter). Countering the Hegemon: Pakistan's Strategic Response. *IPRI Journal XV, no. 1*, 21-50.

Khattak, M. R. (2011, March 26). Indian Military's Modernisation: A Threat to Strategic Stability of South Asia - Analysis, *Eurasia Review*, Retrieved May 02, 2017 from http://www.eurasiareview.com/26032011-indian-militarys-modernisation-a-threat-to-strategic-stability-of-south-asia-analysis/

Krepon, M. (2003). "The stability-instability paradox, misperception, and escalation control in South Asia." in *Prospects for peace in South Asia*, edited by Rafiq Dossani and Henry Rowen, 261-279. Washington DC: Stanford University Press.

Ladwig, W. C. (2010, December). India and Military Power Projection: Will the Land of Gandhi Become a Conventional Great Power? *Asian Survey 50, no. 6*, 1162-1183.

Marshall, R. D. (2012). *The String of Pearls: Chinese Maritime presence in the Indian Ocean and its effect on Indian Naval Doctrine*, California: The Naval Postgraduate School.

Mathew, T. (2009, June 23). Mighty Dragon in the Sea. *Hindustan Times*, Retrieved May 05, 2017 from http://www.hindustantimes.com/india/mighty-dragon-in-the-sea/story-4z564DnnvoQkfiq0GIduqN.html

McCausland, J. (2015, March 10). *Pakistan's Tactical Nuclear Weapons: Operational Myths and Realities.* Washington, DC: Stimson Centre.

Menon, R. (2014, January 22). A Mismatch of Nuclear Doctrines, *The Hindu*, Retrieved May 05, 2017 from http://www.thehindu.com/opinion/op-ed/a-mismatch-of-nuclear-doctrines/article5602609.ece

Mustafa, M. Q. (2014 & 2015). India's Defence Spending Trends From 2004-2014: A Status without Human Development, *Strategic Studies Vol. 34 and 35 Winter 2014 and Spring 2015 Numbers 4 and 1*, 94-113.

Mustafa, M. Q. (2017, January 12). Pakistan's Second Strike Capability: A Step towards Deterrence Stability in South Asia. *Issue brief of Institute of Strategic Studies, Islamabad*.

Naqvi, A. S. (2016, May 20). A Nuclearized Indian Ocean. *The News*, Retrieved May 27, 2017 from https://www.thenews.com.pk/print/121303-A-nuclearised-Indian-Ocean

Narang, V. (2013). Five Myths about India's Nuclear Posture. *The Washington Quarterly 36, no. 3*,143-57.

Naval Chief Inaugurates Naval Strategic Forces Headquarters. (2012, May 19). *Pakistan Inter Services Public Relations*, Retrieved May 30, 2017 from www.ispr.gov.pk/front/main.asp?o=t-press_release&id=2067

Nizamani, S. (2014, Winter). India's Emerging Indian Ocean Strategy. *IPRI Journal XIV, no. 1*, 66-80.

Pakistan conducted its first successful test fire of Submarine Launched Cruise Missile (SLCM) Babur-3, (2017, January 9). *Pakistan Inter Services Public Relations*, Retrieved May 30, 2017 from https://www.ispr.gov.pk/front/main.asp?o=t-press_release&date=2017/1/9

Pakistan May Install Nuclear Missiles on Its Subs. (2001, February 23). *Los Angeles Times*, Retrieved May 25, 2017 from http://articles.latimes.com/2001/feb/23/news/mn-29198

Panda, A., and Vipin N. (2017, January 10). Pakistan Tests New Sub-Launched Nuclear-Capable Cruise Missile. What Now?" *The Diplomat*, Retrieved May 05, 2017 from http://thediplomat.com/2017/01/pakistans-tests-new-sub-launched-nuclear-capable-cruise-missile-what-now/

Philp, C. (2003, January 10). India Stokes the Fires with New Missile Test. *The Times*, Retrieved May 30, 2017 from https://www.thetimes.co.uk/article/india-stokes-the-fires-with-new-missile-test-hmw906m8zbq

PM launches INS Arihant in Visakhapatnam, (2009, July 26). *The Times of India*, Retrieved March 17, 2017 from http://timesofindia.indiatimes.com/city/hyderabad/PM-launches-INS-Arihant-in-Visakhapatnam/articleshow/4820660.cms

Pubby, M. (2016, February 23). India's First Nuclear Submarine INS Arihant Ready for Operations, Passes Deep Sea Tests. *The Economic Times*, Retrieved May 30, 2017 from http://economictimes.indiatimes.com/news/defence/indias-first-nuclear-submarine-ins-arihant-ready-for-operations-passes-deep-sea-tests/articleshow/51098650.cms

Posen, B. R. (1982, Fall). Inadvertent Nuclear War?: Escalation and NATO's Northern Flank. *International Security 7, no. 2*, 28-54.

Rahman, I. (2012, Autumn). Drowning Stability: The Perils of Naval Nuclearization and Brinkmanship in the Indian Ocean. *Naval War College Review 65, no. 4*, 64-88.

Rahman, I. (2015). *Murky Waters: Naval Nuclear dynamics in the Indian Ocean*. Washington DC: Carnegie Endowment for International Peace.

Rahman, I. (2016). "The Indian Navy's Doctrinal and Organizational Evolution." in *The Rise of the Indian Navy, Problems and Prospects*, edited by Harsh V. Pant London: Ashgate.

Rajain, A. (2005). *Nuclear Deterrence in Southern Asia, China, India and Pakistan*. New Delhi: Sage.

Schelling, T. C. (1960). Reciprocal Measures for Arms Stabilization. *Daedalus 89, no. 4*, 892-914.

Talbot, I. (2009). *Pakistan a modern history*. New Delhi: Foundation Books.

Thomas-Noon., Brendan and Rory M. (2015). Nuclear-armed submarines in Indo-Pacific Asia: Stabiliser or menace? *Report of 'The Lowy Institute for International Policy,* 1-26.

Tweed, D., and Bipindra, N.C. (2015, July 29). Submarine Killers: India's $61 Billion warning to China. *Bloomberg*, Retrieved March 30, 2017 from

http://www.thanhniennews.com/world/submarine-killers-indias-61-billion-warning-to-china-49517.html

Winner, A. C. (2012). "The Future of India's Undersea Nuclear Deterrent." In *Strategy in the Second Nuclear Age: Power, Ambition, and the Ultimate Weapon*, edited by Toshi Yoshihara and James R. Holmes. Washington, DC: Georgetown University Press.

Wohlstetter, A. (1958). *The Delicate Balance of Terror*. Santa Monica, CA: RAND Corporation.

Wueger, D. (2015). *Deterring War or Courting Disaster: An Analysis of Nuclear Weapons in the Indian Ocean* California: The Naval Postgraduate School.

Wueger, D. (2016). India's Nuclear-Armed Submarines: Deterrence or Danger? *The Washington Quarterly Fall*, 77-90.

Yadav, RK. (2014). *Mission R&AW*. New Delhi: Manas Publications.

Yadav, S. (2016, January 04). RSS and the idea of Akhand Bharat. *The Indian Express*, Retrieved May 08, 2017 from http://indianexpress.com/article/explained/rss-akhand-bharat/

Yusuf, M. (2013). "Pakistan's View of Security in the Indian Ocean." in *Deep Currents and Rising Tides: The Indian Ocean and International Security*, edited by John Garofano and Andrea J. Dew. Washington, DC: Georgetown University Press.

Waltz, Kenneth N. (Kenneth Neal) (2008). *Realism and international politics (1st ed)*. Routledge, New York.