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'CHAKRA' VIEW: STRENGTHENING INDIA'S UNDERSEA WARFARE CAPABILITY

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In the Indian naval arena, one of the most recent developments is India's plans to lease a second nuclear submarine from Russia.[1] Already India is operating one leased nuclear attack submarine (SSN) INS Chakra. The primary purpose of this is to train Indian submariners in operating a nuclear powered submarine. With India's indigenously produced SSBN INS Arihant slated to be operational in a couple of years, the experience gained from operating the leased Russian nuclear submarine will be invaluable to begin deterrence patrols. All these events appear to be focused towards the Indian SSBN project. However, the navy should also look at inducting SSN which will become vital in the future, particularly to control the Indian Ocean Region (IOR). The IOR is a vast area and hence to control it India requires platforms with high endurance and reach. The primary advantage of a nuclear powered submarine is its endurance. A nuclear propelled submarine can operate under water for months without surfacing with only stores and crew fatigue, being its only limitations. A nuclear propelled submarine can operate for longer time and at longer distance with comparatively less logistic requirement in comparison to diesel electric submarines. So to retain India's dominance in the IOR, nuclear submarines are a must. The indigenous INS Arihant SSBN class is based on the Russian Akula-1 SSN[2] and hence indigenously producing an SSN is not a distant task.

For the past few years China has been increasing its influence in the region through diplomatic means backed by its economic might. Now as a next step China is increasing its hard power in the region which will certainly tilt the balance heavily in its favour. Already China has set up commercial ports around the IOR such as in Sri Lanka, Pakistan, Bangladesh and Myanmar. Though just commercial ports, these ports can potentially be used at least for refueling PLAN warships at times of crisis. This will reduce PLAN logistical requirements in the region permitting it to divert those logistic resources to some other theatre. A case in example is the deployment of a PLAN flotilla off Somalia in the Gulf of Aden for anti-piracy operations. It confirmed that PLAN ships could use Pakistani ports in case of need; that the PLAN was capable of undertaking offensive operations at sea; that PLAN could operate in waters far from home; that PLAN could maintain its ships at sea in operational mode for long stretches.[3] Besides this, China has been operating SSN's for nearly three decades now and would have better experience in operating it. A US government report says that the PLAN vessels have been increasingly found operating in the IOR. Using subsurface contact information reportedly shared by the U.S. military, the report, prepared by the Integrated Defence Staff, said that at least 22 contacts had been made in the IOR in the past year (2012) alone, with the latest incident occurring in February (2013). As India is confident that only two navies in the region — the U.S. Navy and the Indian Navy — have the capabilities to engage in such activity, the Indian military concluded that the boats involved were very likely from the PLAN.[4] One contact with a suspected Chinese submarine took place 90 km from Indian soil near the Andaman and Nicobar Islands.[5] Moreover, China has got the rights to explore 10,000 square kilometre poly-metallic sulphide ore deposits in the Indian Ocean sea bed which was approved by the International Seabed Authority. It will in future, entail regular visits by

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PLAN vessels.[6] This year Chinese survey vessels have started visiting the region.[7] It is important to note that the data collected by these survey vessels can also be used for submarine operations.

India is acquiring anti-submarine warfare platforms like the Boeing P-8I Long Range Maritime Patrol Aircraft (LRMP) and inducting other advanced ASW surface vessels. However, the best ASW platform to hunt down a submarine is another submarine. This is why India has to invest heavily in deploying a nuclear attack submarine arm. But submarine operations at longer ranges have its challenges and the foremost among them is communicating with the submarines. At present, the Indian Navy uses Very Low Frequency (VLF) to communicate with the submarines.[8] VLF has its disadvantages in terms of bandwidth and depth of penetration. Indian Navy could explore using Extremely Low Frequency (ELF) or satellites for submarine communication or could study the innovative US TACAMO system to have better communication with its SSN's. The other disadvantage of VLF and ELF communication is that the length of the ground based transmission antenna runs into several kilometres (the antenna size is inversely proportional to the transmission frequency) and hence is vulnerable as it presents a huge target. India has to include redundancy for its submarine communication systems. The other challenge is to collect dependable bathometric data for submarine operations. The IOR environment complicates the collection of these data. For Submarine operations these data are vital for better situational awareness.

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To have an edge in the surface and ASW, collection of signatures of enemy surface ships and submarines is vital. India needs to deploy underwater hydrophones at critical choke points and the areas frequented by the PLAN vessels in the IOR. Moreover, submarines can

be used for SIGINT operations and here is where the SSN's would come handy. China has built an underground submarine base in Hainan Island where PLAN submarines could be berthed without being detected. India Navy could possibly make its SSN's sit somewhere around the base area to monitor PLAN submarine activity. A library of signatures and data on enemy vessels would give Indian Navy an edge in times of crisis.

The presence of a strong Indian nuclear submarine arm in the IOR will act as deterrent against China. India should also focus towards acquiring new AIP (Air Independent Propulsion) equipped submarines and upgrading its fleet of diesel electric boats with AIP. China's sensitivities to a possible naval blockade of Chinese SLOC can be understood from the fact that the Chinese have been building up Strategic Petroleum Reserves (SPR) which as per estimates could contain around 500 million barrels of crude by 2018.[9] **India has to play into this Chinese fear by building up a strong underwater force capable of interdicting China's energy supply lines, striking the reserves along with the ability to prolong the conflict.** However, laying a naval blockade is not an easy task as elaborated by Captain Ravi Malhotra in his paper "Can India Exploit China's Vulnerabilities in the Indian Ocean?"[10] So, it is essential to build up a strong strategic alliance with the United States and other countries that could possibly play a role in this like Japan, Australia, Vietnam and Singapore based on *shared responsibility concept*.

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies CAPS)

Endnotes:-

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3 Air Commodore Jasjit Singh, *Essays on China*, Ch. 7 (New Delhi: KW Publishers, 2012), Pp- 222.
4 http://thediplomat.com/2013/04/red-star-over-the-indian-ocean/
5 ibid
6 Jayadeva Ranade, *China Unveiled Insights into Chinese Strategic Thinking* (New Delhi: KW Publishers, 2013) Ch 11, Pp-104.
7 http://news.xinhuanet.com/english/china/2013-03/16/c_132238514.htm
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8 http://www.indiadefence.com/sub-comm.htm
9 http://www.ft.com/cms/s/0/c7090954-347d-11e2-8b86-00144feabdc0.html#axzz2lGVQRLzT
10 Captain Ravi Malhotra, "Can India Exploit China's Vulnerabilities in the Indian Ocean?," *College of Naval Warfare Journal*, Annual Issue 2008.

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