



Is India's Nuclear Triad Complete?

OE Watch Commentary: The Indian Navy's INS *Arihant* received a lot of attention as the first of its namesake class of nuclear-powered ballistic missile submarines when it entered service in 2016. The accompanying excerpted articles discuss the role the INS *Arihant* will continue to play after the Indian government recently announced that the submarine completed its first deterrence patrol. The article from *The Indian Express*, an English-language daily newspaper, mentions how the Indian government already has the “capability to deliver nuclear weapons both from land and from air” and that with the *Arihant*, it “can now also do so from under water.” The author of the article also notes how a “substantial element of the work in developing and equipping this submarine was undertaken in India, by Indians, and accordingly it has a very substantial indigenous component.” The author also points out that the *Arihant* “does not constitute any shift in India's approach towards nuclear weapons” and the Indian government did not change its policy of “no first use of nuclear weapons.”

The article from *The Print*, an English-language news website in India, provides another perspective of the role and capabilities of the *Arihant* following the first deterrence patrol. While the author recognizes the development as “a commendable achievement,” he also mentions how the Russian government “provided the nuclear reactor design” and believes the Indian government's goals of a nuclear triad are not fully realized. He notes how the country's navy “would need at least three boats in the *Arihant* class to ensure at least one is on patrol at any given time” and that “the 750 kms weapon range of the K-15 missile on India's SSBN isn't enough to target Pakistan and China.” The author also points out that the diesel-electric and air-independent powered “Project 75 Scorpene class submarines are almost six years behind schedule” and sees the *Arihant* as having “little utility in a conventional conflict.” Overall, there are plans to continue production of a few more *Arihant* class submarines and while it would provide the Indian government the capability to have a constant deterrence patrol, the status of other submarines in the fleet could be worth watching. **End OE Watch Commentary (Stein)**



Smt. Gursharan Kaur, wife of the Prime Minister, Dr. Manmohan Singh breaking the auspicious coconut on the hull of the 6,000 tonne submarine, INS *Arihant* marking its launch, at Visakhapatnam on July 26, 2009.

Source: Prime Minister's Office (GODL-India) [GODL-India (https://data.gov.in/sites/default/files/Gazette_Notification_OGDL.pdf)], https://commons.wikimedia.org/wiki/File:Smt._Gursharan_Kaur,_wife_of_the_Prime_Minister,_Dr._Manmohan_Singh_breaking_the_auspicious_coconut_on_the_hull_of_the_6,000_tonne_submarine_INS_Arihant_marking_its_launch_at_Visakhapatnam_on_July_26,_2009.jpg

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Continued: Is India's Nuclear Triad Complete?

“The self-complementary tenor of messaging, however, does not obscure the reality that India's sea-based leg is still some distance away from turning credible.”

Source: Satish Chandra, “The Trinity Of Power,” *The Indian Express*, 19 November 2018. <https://indianexpress.com/article/opinion/columns/ins-arihant-nuclear-submarine-deterrence-the-trinity-of-power-national-security-china-pakistan-5452616/>

...it demonstrates that India, apart from its capability to deliver nuclear weapons both from land and from air, can now also do so from under water...the Arihant's successful nuclear deterrence patrol signifies India's attainment of complete mastery over all the highly complex systems and procedures entailed in operating the sea leg of the triad...The validation of the scores of procedures and system checks intrinsic to the sea leg of the triad is a cause of great satisfaction. Clearly, the nuclear deterrence patrol signifies India having come off age as a mature nuclear-armed state.

...It is also gratifying that a substantial element of the work in developing and equipping this submarine was undertaken in India, by Indians, and accordingly it has a very substantial indigenous component. The Arihant is believed to be the first in a series of six submarines. These will form the core of India's sea-based nuclear deterrent and constitute a potent and formidable weapons system which will ensure national security. It is a given that with the serial production of Arihant-type submarines, there will be an even higher element of indigenisation.

In conclusion, it may be underlined that the Arihant's nuclear deterrence patrol does not constitute any shift in India's approach towards nuclear weapons.

As per its nuclear doctrine, India remains committed to “the goal of a nuclear weapon free world, through global, verifiable and non-discriminatory nuclear disarmament”, to no first use of nuclear weapons, and non-use of nuclear weapons against non-nuclear weapon states...

Source: Abhijit Singh, “INS Arihant is a strategic asset but has little utility for India in conventional conflict,” *The Print*, 14 November 2018. <https://theprint.in/opinion/ins-arihant-is-a-strategic-asset-but-has-little-utility-for-india-in-conventional-conflict/149283/>

Modi govt's self-complimentary message on INS Arihant does not obscure the fact that the submarine alone isn't enough...This is, to begin, a commendable achievement. It was in the early 1980s that Indian engineers and scientists first began research and development on a reactor for a nuclear submarine. The Advanced Technology Vehicle (ATV) was planned to be a technology demonstrator — an indigenous undertaking in which Indian planners would have little help, except from Russia that provided the nuclear reactor design...

From a strategic standpoint, two aspects about the Arihant's first deterrent patrol are noteworthy. First, it moves the nation a step closer to actualising the ‘triad’... Second, the sea-based leg of the triad is the hardest to operationalise, not just organisationally and financially — given the huge investment needed to deliver the SSBN — but also in terms of validating command, control, and communications procedures, critical in the launching of nuclear weapons...

The self-complementary tenor of messaging, however, does not obscure the reality that India's sea-based leg is still some distance away from turning credible. The Indian navy would need at least three boats in the Arihant class to ensure at least one is on patrol at any given time. Moreover, the 750 kms weapon range of the K-15 missile on India's SSBN isn't enough to target Pakistan and China. New Delhi will have to wait for the installation of the K-4 missile (3,500 kms range) on the Arihant, and the induction of the bigger, more capable platforms (S-3, S-4 and S-5) to be able to claim credible deterrence. Already there is speculation that there may have been no nuclear weapons onboard Arihant during the deterrent patrol. With India's nuclear warheads firmly in the custody of Bhabha Atomic Research Centre (BARC) scientists, many observers remain unconvinced the former were mated with missiles before start of the deterrent patrol.

Whatever the truth about the Arihant's recent mission, the fact is that India's SSBN program is pressurising Pakistan into nuclearising its conventional undersea fleet...Yet, the dominant driver of India's SSBN plans appears to be China's expanding inventory of nuclear submarines. The PLAN has operationalised the Jin class (Type 94) with the JL-2 (7,400 kms range) missile, with the submarine reportedly completing its first deterrent patrol in 2015.

...Indian security planners must also decide if they need a continuous at sea deterrent or a system of ‘bastion control’ wherein the SSBN with long-range missiles is deployed in heavily defended home-waters. Amidst the celebrations following the Arihant's first patrolling mission, it is ironical that the Indian navy's tactical war fighting fleet of diesel-electric submarines continues to languish. The Project 75 Scorpene class submarines are almost six years behind schedule and the follow on Project 75-I is yet to take off. It's worth pointing out that as useful a strategic asset as the Arihant is, it has little utility in a conventional conflict.

Unfortunately, Indian policy makers who frequently extol India's SSBN capability, pay little attention to the crisis of numbers in India's war fighting undersea fleet.