

# Indian Navy has a submarine problem

By [Dinesh Kumar](#) | 30 December, 2017

•  
•



Naval Submarine INS Kalvari as it sails after the commissioning ceremony in Mumbai on 14 December 2017. Photo: IANS

*All six Scorpene submarines, originally scheduled to be inducted between 2012 and 2017, are slated for induction by 2021, i.e. four years behind schedule.*



In 1999, the year when the Kargil War was fought, the then BJP-led NDA government cleared a 30-year plan to ensure by 2030 a fleet of 24 conventional diesel-electric submarines for the Indian Navy. The ambitious plan involved creating two separate assembly lines to build a set of six submarines each, under Projects 75 and 75(I), which were to be sourced from two different countries. This project of building 12 submarines with foreign collaborators was to be followed by India building 12 indigenously designed submarines, thus taking the total to 24. It is expected that by 2030 the then (as of 1999) fleet of submarines would have been decommissioned.

Earlier this month, India inducted its first conventional submarine in 17 years, thus taking the present strength of the Navy's conventional submarine fleet to barely 14, which are 10 short of the planned strength of 24 supposed to be inducted over the next 13 years, going by the original

plan. But that remains a far cry, simply because India has neither contracted purchase of six more submarines from a second foreign source, nor finalised a design to indigenously build 12 conventional submarines. All that India has done until now is to contract building six French-origin Scorpene submarines, the first of which (INS Kalvari) was inducted on 14 December, after being built at the Mazagon Docks Limited in Mumbai, in collaboration with France's M/s Naval Group.

Interestingly, INS Kalvari took eight years to build and has been inducted five years behind schedule. This is indeed a repeat of history. Slightly over a quarter of a century ago, India in February 1992 inducted INS Shalki, a German-origin submarine that similarly took eight years and four months (100 months) to license, build and assemble at the MDL, instead of the originally scheduled 42 months (three-and-a-half years). The second German-origin submarine, INS Shankul, commissioned in May 1994, had taken even longer to build—10 years (120 months).

All six Scorpene submarines, which were originally scheduled to be inducted between 2012 and 2017, are now slated for induction only by 2021, i.e. four years behind schedule. Although in 2013 the government cleared procurement of another six advanced conventional submarines, until December 2017 no such submarine had been shortlisted, let alone a purchase contract signed.

India's current conventional submarine fleet of 14 is severely aged. After INS Kalvari, inducted only a fortnight ago, the next youngest conventional submarine with the Navy is 17 years old. INS Sindhusashtra, a Russian Kilo Class submarine, inducted in 2000, was the last of the Russian-origin Kilo Class submarine to be commissioned by the Navy. The remaining 12 conventional submarines are an average quarter century old—between 23 to as much as 31 years to be exact. At any point of time, some of these 12 submarines are usually undergoing refit, overhaul or maintenance, thus resulting in fewer submarines actually available for operational deployment. In any case, by 2030 or before, all these 12 submarines would have been decommissioned, leaving the Indian Navy with a severely depleted submarine fleet as it stands at the start of 2018.

As it is, in recent years, this "silent arm" (submarines) of the Navy has been in the news for the wrong reasons. It started with the Navy losing

INS Sindhurakshak, a Russian-origin Kilo Class submarine, on 14 August 2013, following a series of explosions on board its torpedo section, which led to the death of three officers and 15 sailors in Mumbai. This marked the first-ever post World War-II peacetime loss of a submarine while docked in harbour. Six months later on 26 February 2014, then Chief of Naval Staff, Admiral Devendra Kumar Joshi resigned, marking a first-ever resignation by a naval chief while in harness. Admiral Joshi, himself a distinguished submariner, resigned following an outbreak of a fire on board INS Sindhushastra, another Kilo Class submarine, which resulted in the death of two officers while it was at sea.



Scorpene class submarine, INS Khanderi being launched at the Mazagon Dock in Mumbai on 12 January 2017. Photo: IANS



The Navy's current total submarine fleet of 16 includes two nuclear-powered submarines, one of which is on a ten-year lease from Russia since 2012. In August 2016, the Navy had quietly inducted India's first indigenously built nuclear-powered submarine, the INS Arihant, which technically completed India's nuclear triad and gave New Delhi a credible second strike capability. A nuclear triad involves the ability of a country to execute a nuclear strike from land, sea and air. A second strike capability means the ability of a country to strike back with nuclear weapons after being hit with nuclear missiles and bombs by an enemy country. It is with respect to the latter that a nuclear-powered submarine armed with nuclear weapons becomes vital. Reason: unlike a diesel-electric conventional submarine, a nuclear-powered submarine can travel long distances underwater, undetected, without needing to break surface to snorkel air in order to recharge its batteries, which is when it is most vulnerable to detection. This thus makes it easy for a nuclear-powered submarine to be positioned undetected under sea to carry out a retaliatory strike in case its home country is attacked.

But here again lies a problem. The Akula class submarine, INS Chakra, on lease from Russia, is only for training Indian sailors and is not permitted to carry nuclear missiles or be deployed on operational roles. That leaves the Navy with just one nuclear-powered submarine, the development of which is undoubtedly a major feat, considering that only five other countries possess this highly sophisticated technology. But INS Arihant has its limitations. First, its nuclear reactor has a short refuelling cycle and therefore a limited endurance capacity. Second, the INS Arihant is currently meant to be armed with 12 indigenously developed K-15 SLBMs (submarine launched ballistic missiles), which has a range of just 750 km. This missile range is ineffective against a much bigger and vaster country like China, which, in contrast, has SLBMs with a range of 8,000 km that can target any part of India from long distances. India is currently developing the K-4 with a 3,500 km range and has plans to develop the K-5 with a 5,000 km range. But development of these missiles is several years away, thus raising serious questions on the effectiveness of the naval dimension of the Indian triad vis-à-vis China.

In February 2015, the government sanctioned construction of six nuclear powered attack submarines or SSNs, the first of which is easily a decade away from induction, considering that no deadline has been accorded.

These six SSNs are in addition to four INS Arihant class nuclear-powered submarines, with ballistic missiles (SSBNs) that were previously sanctioned and are already in various stages of development. India's current solitary nuclear submarine with a limited missile range compares very modestly with China, which already has about ten nuclear-powered submarines and that too with greater endurance and long-range nuclear tipped missiles, in addition to over 50 conventional submarines. China is expected to increase its submarine fleet to between 69 and 78 by 2020, according to a US Congress report. Both Pakistan and Bangladesh have contracted purchase of conventional submarines from China, thus adding to India's increasing security challenge in the Indian Ocean Region.

Just as nuclear weapons cannot replace conventional weapons, nuclear-powered submarines too cannot replace Indian Navy's need for conventional submarines. India needs a mix of both conventional and nuclear-powered submarines. Conventional submarines are cheaper, have smaller hulls and are easier to manoeuvre, compared to nuclear-powered submarines. Diesel-electric submarines can effectively engage high value targets with its conventional missiles and torpedoes. The Navy is understandably highly concerned about the future of its submarine fleet. It is the political executive that needs to give serious attention to the country's need for acquiring and maintaining a credible quantity of this conventionally powered sub surface stealth weapon.