

Of submarines, SAR and the MH 370 incident

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Background

Modern conventional maritime threats consist of two types, i.e. surface and underwater. Normally, surface combatant vessels such as frigate and corvette perform anti-surface warfare, while submarines perform underwater warfare.

Compared with surface combatant vessels, a submarine is harder to be detected via traditional radar or sonar system. Submarines are an important military asset to neutralize surface and underwater threats nowadays.

Revisiting the history of the Second World War, one can find that the South China Sea has always been an important underwater battle theatre.

After the surrender of Japan in 1945, the submarine fleet from United States and others filled the vacuum in the said area.

Indonesia was the first Southeast Asian country to enter into the exclusive submarine club in the 1950s. It possessed 12 submarines at the time but the numbers declined due to the high maintenance cost. Nowadays, the Indonesian Navy only operates two submarines and three submarines are scheduled to be delivered from 2016 to 2018.

Singapore has six state of the art submarines and started operating its underwater fleet since 1997. In the meantime, Vietnam had also ordered six Kilo-class submarines from Russia and the delivery has been started since last year.

Having learnt that the underwater threat scenario would be intensified as more and more regional countries decide to procure submarines, the Malaysian government made the decision to procure two French submarines (Scorpenes) in 2002.

The Deployment Area

There are a few strategic choke points and interests that the foreign powers have been eyeing for a long time, namely the Straits of Malacca and the oil reserve in the South China Sea respectively.

In order to safeguard the strategic interests in the region, the interested parties send naval vessels to show their flags periodically. These parties are China, U.S, India, U.K, Australia, Japan and neighboring South East Asian countries. Particularly, China has reportedly been using South China Sea as the nuclear-powered submarine missile launch area.

However, the Straits of Malacca is not a suitable place to deploy underwater fleet due to the shallowness of the straits, i.e. 25 meters depth on average. Therefore, almost all submarine fleets are deployed in South China Sea which is a vastly larger area and has a deeper seabed.

One can see that the Malaysian Sepanggar submarine base is in Sabah. China is developing Hainan Island as the strategic and aircraft carrier naval base, and Vietnam has reactivated its Cam Ranh base, and Indonesia has built a new submarine base in Palu, Sulawesi.

The Roles of a submarine

Basically, a submarine has two advantages against surface combatants. First it is harder to be detected, secondly it is the best vessel to search and destroy hostile submarine.

Therefore, it is usually being used as a deterrence asset against potential opponents. Moreover, to train our naval force to detect and neutralize underwater threats, nothing is better than deploying our own submarine as a hypothetical enemy in naval exercise.

In a combat scenario, submarines use its sensors such as active and passive sonar systems to detect hostile targets and fire torpedoes to destroy it when necessary. However, combat-based submarine sonar system is unable to differentiate big artificial parts from natural landscape when in the deep sea, and it is unable to perform rescue mission.

This has been proven in the August 2000 sinking of the Russian Kursk nuclear submarine incident. The submarine encountered explosion and sunk directly into the deep sea during a naval exercise. There were other Russian submarines on the scene, but they were unable to locate the final location of the wreck. Eventually, some special search and rescue vessels from the U.K and Norway were deployed to locate and perform the rescue work though no survivors had been found in this incident.

Furthermore, the French Navy had dispatched a nuclear-powered combat submarine *Émeraude* to assist the Search and Rescue Mission for the Air France AF 447 airplane which crashed into the Atlantic Ocean in June 2009. During its 30-day mission, the combat submarine was not able to find the debris of the airplane or the "Black Box".

Reasons why Scorpene is not suitable

In the incident of MH 370's disappearance, the geographical conditions and strategic situation is different from the 2009 Air France incident. Firstly, the Gulf of Thailand's sea depth is shallower than the Atlantic Ocean, with an average depth of 40m-60m against the latter's 3000m-5000m depth. Thus, it is not advisable to deploy submarines around the area to avoid it clashing with surface vessels.

As a matter of fact, the submarine's stealth ability is realised through hiding itself from hostile sonar and acoustic detection. Thus, it is also not advisable to deploy a Scorpene submarine which is deemed as a strategic asset for Malaysia in the particular area to avoid its acoustic signature to be detected, especially when Malaysia's potential strategic opponents like Vietnam, China and

Singapore have deployed numerous vessels equipped with state of the art sonar and acoustic detection device.



However, in order to prepare for the worst case scenario, which is performing deep sea SAR mission, the nations which have submarine fleets began deploying Submarine Escape and Rescue Vessel (SSRV) to perform deep sea search and rescue mission. Malaysia had commissioned MV Mega Bakti SSRV (Left Picture) in the last year, while Singapore

had launched its SSRV MV Swift in 2007.

Currently, the two SSRV mentioned have been sent to locate the missing MH 370 aircraft which is suspected to have crashed into the sea.

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