



SUBMARINE ACQUISITIONS IN SOUTHEAST ASIA: PROBLEMS AND PROSPECTS

Event Report
13 November 2015

Event Report

SUBMARINE ACQUISITIONS IN SOUTHEAST ASIA: PROBLEMS AND PROSPECTS

Organised by:

The Maritime Security Programme,
Institute of Defence and Strategic Studies (IDSS),
S. Rajaratnam School of International Studies (RSIS),
Nanyang Technological University (NTU),
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This report summarises the proceedings of the conference as interpreted by assigned rapporteurs and editor of the S. Rajaratnam School of International Studies. Participants neither reviewed nor approved this report.

The conference adheres to a variation of the Chatham House Rule. Accordingly, beyond the points expressed in the prepared papers, no attributions have been included in this conference report.

EXECUTIVE SUMMARY

1. The maritime domain, including the subsurface domain in the Asia Pacific is becoming increasingly complex. The numbers and capabilities of submarines operating in the region have increased.
2. The deterrent value of submarines is a main motivation behind submarine acquisitions. The stealth advantage of submarines warrants a disproportionate response from surface forces and submarines are often said to act as a force multiplier for a small navy against a larger naval force.
3. Other impetuses behind submarine acquisitions in the region are also aplenty, including national prestige and the desire to keep up with neighbouring countries. Modern submarines can be used for intelligence gathering in peace times, and sabotage operations in times of war.
4. Problems with submarine acquisitions and operations exist, including high cost of acquisition and maintenance, lack of human capacity and navigation risks in operation.
5. The increase in the numbers of submarines in the region has the potential to destabilise the strategic environment in the region. The nature of submarine operations increases the chances of accidental armed conflict and hinders maritime confidence building in the region.
6. The lack of trust is the main inhibiting factor for cooperation on submarine safety in the region. Submarine operators should explore the various ways and means available to improve confidence building and facilitate the progression towards a regional protocol for submarine operations and rescue.

IMPETUSES FOR SUBMARINE ACQUISITIONS IN SOUTHEAST ASIA

The Asia Pacific is fast gaining importance strategically, but at the same time, the maritime domain especially in the South China Sea is becoming increasingly complex as naval modernisation and expansion occurs throughout the region. Navies in Southeast Asia are acquiring more assets, including submarines. Indonesia, Malaysia, Singapore and Vietnam currently operate submarines, while Myanmar, the Philippines and Thailand have indicated interest in acquiring these subsurface assets. The numbers and capabilities of submarines operating in the region have increased.

Speakers presented on the motivations behind the procurement decisions of submarine operators in the past, present and future, with specific case studies on countries in Southeast Asia (Indonesia, Malaysia, Singapore and Vietnam) and the wider Asia Pacific region (Japan and Australia). One impetus is the level of national prestige that comes with submarine ownership, with submarine display during national parades and “show the flag” missions being conducted by countries to showcase their naval capabilities, partly for purposes of deterrence. The desire to keep up with one’s neighbours is therefore another reason for acquiring submarines in the region.

The deterrent value of submarines was highlighted as a main motivation behind submarine acquisitions. The ability to operate covertly for extended periods of times helps create uncertainty in the minds of potential adversaries. The difficulties associated with pinpointing the location of submarines help deter infringements into a country’s territorial waters, in what one of the speakers called the “cognitive effect” of submarines. Some participants of the workshop argued that the psychological and moral effect of submarines is often greater than their actual operational effect, as exemplified by Canberra’s circumspection created by the threat posed by a few Indonesian submarines to the Royal Australian Navy during the Australian-led Intervention Force in East Timor (INTERFET) in 2000.

Submarines are often said to act as a force multiplier for a small navy against a larger naval force. The stealth advantage of submarines warrants a disproportionate response from

surface forces and narrows the military-technological dominance of great navies. Many of the presenters argued that this factor is an important consideration behind submarine acquisitions among small Southeast Asian countries as the stealth advantage of submarines enables the country to defend itself at sea against larger navies in the wider region. Submarines can act not only as agents of sea denial but also sea control, which is of particular importance to small navies in Southeast Asia because of the growing interest in anti-access, area-denial (A2/AD) strategies in the highly congested and contested South China Sea. For instance, one presenter argued that Vietnam’s submarine force provides an effective counter-intervention and area-denial force against the stronger Chinese navy in the South China Sea. Some participants further argued that the disproportionate force-multiplier effects of modern submarines have further expanded through the advent of new technologies that enhance submarine capabilities. Examples of technological advancements raised during the workshop include the advent of the air independent propulsion (AIP) and the new Japanese-developed lithium-ion batteries which would increase submarines’ submerged endurance and allow for sustained high-speed manoeuvres underwater. In addition, some participants also raised the prospect of submarines being more capable of countering aerial anti-submarine warfare (ASW) forces through the incorporation of underwater-launched, short-range air defence weapons.

The ability of modern submarines to perform a variety of other functions also drives their acquisitions in the region. Stealth advantage of submarines has important peacetime value in terms of covert surveillance and intelligence collection. In times of war, submarines can be used for sabotage and the insertion of Special Forces. Submarines also have the potential to inflict economic damage on adversaries through the control of strategic chokepoints and the disruption of commercial shipping. In addition, submarines could also be used to support operations against maritime crimes, as exemplified by the Dutch deployment of a submarine in support of NATO’s counter-piracy operations off the coast of Somalia in September 2010.

OPERATIONAL AND TECHNICAL PROBLEMS ASSOCIATED WITH SUBMARINE ACQUISITIONS AND OPERATIONS

Submarines are important naval assets for countries in Southeast Asia. While they provide notable advantages for small navies in the region, many problems do exist in terms of their acquisition and operation which needs to be addressed.

The first problem is the huge cost associated with submarine acquisition and subsequent maintenance. This issue is especially pertinent for small navies in Southeast Asia as economies of scale dictate that deploying a small fleet of submarines is inherently more expensive per unit than maintaining a larger fleet. A small number of boats also make it difficult to guarantee permanent operational capability. A few of the participants argued that a minimum of 10 submarines are needed for a country to ensure efficient planning and operability in times of emergency, as well as a cost effective replacement chain in the long-term. Budgetary constraints and inter-service competition for resources limit the size of the submarine fleets of Southeast Asian countries thereby increasing the cost and challenging the sustainability of their submarine programs.

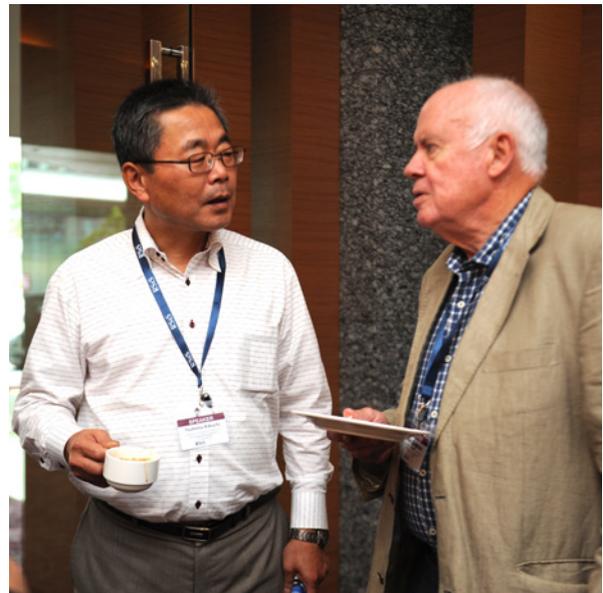
The second problem concerns the lack of capacity in operating complex systems on submarines. Submarines purchased often do not come with the technical know-how of operations, such as a library of different vessels' acoustic signatures, a capacity which small navies building up a submarine capability for the first time face difficulties in acquiring. Navies in Southeast Asia also face serious human

capital constraints in operating submarines. Crew members require long periods of training to acquire complex submarine operational skills which depreciate quickly upon gaps in training. As such, small navies find it difficult to produce a continuous stream of qualified personnel. Commanding officers need to undergo intensive training in order to take up huge command and control responsibilities, in order to make independent decisions when out of radio contact with their surface higher command.

The third problem lies with technological advance. Innovations in submarine technology such as more efficient propulsion system and the ability to deploy unmanned vehicles, together with advances in ASW including improved sensors for detection, among larger navies with a strong submarine force have the potential to decrease the effectiveness of small fleets which often cannot afford first-rate submarines.

There are also navigational risks associated with operating submarines in the region, particularly in the South China Sea which is a semi-enclosed body of often shallow water with dense shipping traffic. Some parts of the South China Sea are poorly charted especially around the Spratly islands. Some participants argued that submarine operations are inherently dangerous and mistakes and accidents are often more catastrophic than equivalent surface incidents. Disputed jurisdiction further complicates the issue, especially in the event of an accident of some sort.





IMPACT ON THE STRATEGIC ENVIRONMENT IN SOUTHEAST ASIA

The increase in the numbers of submarines in the region has the potential to destabilise the strategic environment in the region, especially when submarines are deployed on covert missions in disputed and foreign territorial waters. The very nature of submarine operations hinders maritime confidence building and increases the uncertainty of a peaceful resolution to South China Sea disputes for instance.

Differences among various nation-states in their interpretations of international maritime law governing submarine operations could increase tensions in the region. Article 20 of the United Nations Convention on the Law of the Sea (UNCLOS) stipulates that any submarine claiming innocent passage through territorial waters or archipelagic waters are required to surface and show its national flag. This has been a source of tension between Indonesia and other submarine operators in the region,

as exemplified by former Indonesian president Abdurrahman Wahid's April 2000 warning to Singapore not to allow her submarines to stray outside designated sea lanes when traversing through Indonesian waters.

Submarine operations challenge the safety of the maritime domain in the region. Some participants argued that when a submarine is deployed in disputed waters during times of tension, the chances of inadvertent or accidental armed conflict may increase, especially when there is a lack of communication with surface higher command, pressure exerted by adversarial ASW forces as well as misjudgement of the situation by the submarine commander. Even in peace times, sensitivity to the nature and location of submarine operations hinders cooperation in dealing with submarine safety and accidents in the region.

SUMMARY OF CONCLUSION AND ISSUES FOR FURTHER CONSIDERATION

The workshop concluded that ensuring submarine safety in regional waters is a major challenge for Southeast Asian countries. It recognised the current lack of protocol to deal with submarine accidents in the region. The lack of trust is clearly the main inhibiting factor. Despite this, ways and means are available which could improve confidence building and facilitate the progression towards a regional protocol for submarine operations and rescue. Some suggestions to improve submarine safety brought up during the workshop include:

- Submarine operators in the region should participate actively in submarine confidence building activities, such as the Asia Pacific Submarine Conference and the Exercise Pacific Reach;
- Enhance regional cooperation, especially in water space management (WSM) and prevention of mutual interference (PMI);
- Creation of a submarine Movement Advisory Authority in the region;
- Establishment of submarine exclusive or “no-go” zones, particularly in areas of sovereignty disputes in the South China Sea;
- Development of regional protocols to deal with missing and sunk submarines;
- Development of protocols to deal with unidentified submarines in territorial waters;
- Establishment of Government-to-Government hotlines between national submarine operating authorities;
- Establishment of submarine safety working groups within existing regional institutions including the ADMM-Plus and the Expanded ASEAN Maritime Forum.

WORKSHOP PROGRAMME

0830hrs	Registration	1200hrs	Lunch
0900hrs	Opening Remark Ms Jane Chan <i>Research Fellow and Coordinator of Maritime Security Programme, IDSS, RSIS</i>	1330hrs	Session 3: Submarine Acquisitions: Southeast Asian Examples Moderator Rear Admiral (Ret.) James Goldrick <i>Fellow, Lowy Institute for International Policy</i> Panellists Indonesia Mr Ristian Atriandi Supriyanto <i>Indonesian Presidential PhD Scholar, Strategic and Defence Studies Centre, Australian National University</i> Malaysia Mr Dzirhan Mahadzir <i>Journalist, IHS Jane's</i>
0910hrs	Session 1: Setting the Scene: Why Submarines? Moderator Ms Jane Chan <i>Research Fellow and Coordinator of Maritime Security Programme, IDSS, RSIS</i> Panellists Naval Modernisation in General: Why Look at Submarines? Professor Geoffrey Till <i>Visiting Senior Fellow, Maritime Security Programme, IDSS, RSIS</i> Indian Perspective Assistant Professor Anit Mukherjee <i>South Asia Programme, IDSS, RSIS</i> General Issues of Submarine Acquisitions: Why Get Them? Possible Consequences Dr Sam Bateman <i>Adviser and Senior Fellow, Maritime Security Programme, IDSS, RSIS</i> Discussion	1500hrs	Coffee Break
1030hrs	Coffee Break	1515hrs	Continuation of Session 3 Panellists Singapore Mr Collin Koh <i>Associate Research Fellow, Maritime Security Programme, IDSS, RSIS</i> Vietnam Dr Carlyle Thayer <i>Emeritus Professor, The University of New South Wales, Australian Defence Force Academy, Canberra</i>
1045hrs	Session 2 : Submarine Acquisitions: Extra-regional Influences? Moderator Professor Geoffrey Till <i>Visiting Senior Fellow, Maritime Security Programme, IDSS, RSIS</i> Panellists Australia Rear Admiral (Ret.) James Goldrick <i>Fellow, Lowy Institute for International Policy</i> Japan Vice Admiral (Ret.) Koda Yoji <i>Advisor, Japan Marine United Co.</i> Discussion	1615hrs	Session 4: General Discussion Moderator Professor Geoffrey Till <i>Visiting Senior Fellow, Maritime Security Programme, IDSS, RSIS</i>
		1715hrs	End

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ABOUT THE INSTITUTE OF DEFENCE AND STRATEGIC STUDIES

The **Institute of Defence and Strategic Studies (IDSS)** is a key research component of the S. Rajaratnam School of International Studies (RSIS). It focuses on defence and security research to serve national needs. IDSS faculty and research staff conducts both academic and policy-oriented research on security-related issues and developments affecting Southeast Asia and the Asia Pacific. IDSS is divided into three research clusters: (i) The Asia Pacific cluster – comprising the China, South Asia, United States, and Regional Security Architecture programmes; (ii) The Malay Archipelago cluster – comprising the Indonesia and Malaysia programmes; and (iii) The Military and Security cluster – comprising the Military Transformations, Maritime Security, and Humanitarian Assistance and Disaster Relief (HADR) programmes. Finally, the Military Studies Programme, the wing that provides military education, is also a part of IDSS.

For more information about IDSS, please visit www.rsis.edu.sg/research/idss.

ABOUT THE S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES

The **S. Rajaratnam School of International Studies (RSIS)** is a professional graduate school of international affairs at the Nanyang Technological University, Singapore. RSIS' mission is to develop a community of scholars and policy analysts at the forefront of security studies and international affairs. Its core functions are research, graduate education and networking. It produces cutting-edge research on Asia Pacific Security, Multilateralism and Regionalism, Conflict Studies, Non-Traditional Security, International Political Economy, and Country and Region Studies. RSIS' activities are aimed at assisting policymakers to develop comprehensive approaches to strategic thinking on issues related to security and stability in the Asia Pacific.

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