

The Rise of the Small Boats



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Any national counter-terrorism strategy whose country has maritime borders to safeguard and protect is inherently flawed and dangerously incomplete without a plan for countering terrorist threats at and from the sea. Too many of these strategies have neglected the nuances and threats of the maritime domain in favor of the easier and more definable land domain out of convenience, ignorance or both. However, terrorists can and do plan and execute attacks on maritime targets, often with devastating effect. This article will discuss motivations behind maritime terrorist attacks, share the Sri Lankan Navy's experience with battling terrorists at sea, and, finally, conclude with insights and recommendations on how navies, large and small, may want to consider a less costly but potentially more effective change in their strategy by creating or upgrading the use of small boats to combat the terrorist threat on water.

Why Terrorists use the Sea and the tactic of “Swarming”

The motivation and likelihood for terrorist actions at sea can be measured by a number of factors. These include the degree of state sponsorship a terrorist organization may have, how well networked the organization is with other terrorist networks and organizations, the degree of involvement in drug trafficking, and whether the terrorist organization owns land from which to base operations from so-called safe havens.ⁱ Any one or more of these factors can motivate terrorist organizations to initiate or mature their maritime strategies to achieve political goals through violence.

Such terrorist attacks at sea have taken many forms. Land-based teams can be employed to place improvised explosive devices on board ships either by trained divers, attack craft, suicide craft and even sea mines. Supporting technologies have ranged from speedboats, scuba, sea scooters – all helped typically by GPS, according to one report.ⁱⁱ In one study, some 15 different terrorist groups, including Hamas, al-Qaeda, Abu Sayyaf Group, and the Liberation Tigers of Tamil Eelam (LTTE), conducted at least one maritime attack over the period 1998-2005.ⁱⁱⁱ The LTTE will be discussed in greater depth later in the article.

For many terrorists the sea is undoubtedly an attractive place to carry out activities and operations that support their objectives. According to Norman Cigar,^{iv} the sea can be seen as a theater for an attack against high-value maritime targets such as a warship, oil platform, or other maritime facility such as a port. The sea can also be seen as an avenue of approach, as a line of communication, and as an economic asset.

He writes that the sea *can serve as an avenue of approach for attacks against the land as well as a line of communication for the combat service support element integrated at the operational level, being used to transport personnel and equipment for current or future land operations.*^v

Terrorists can use the sea as a line of communication to routinely move equipment and personnel from one location to another in support of their operations. For example, the sea can also be used as escape routes, providing a way for terrorists to quickly leave an area once operations have been conducted

typically on land. Economically, the sea can also be viewed as an asset by terrorists who can control (and profit) from illegal activities such as sea-based smuggling operations to include human trafficking, illegal oil shipments and other oil-related trade.

Because of many of the reasons and motivations stated, terrorist organizations have, over the years, conducted numerous successful attacks on high-value maritime targets. The most high-profile maritime terrorist attack was the attack on the *USS Cole* in 2000, an al-Qaeda planned attack that killed 17 US sailors. However, there have been others. In 2002, al-Qaeda undertook its first successful attack against a commercial French super tanker *Limburg* with small boats packed with explosives. The attack was launched when the *Limburg* was just 12 nautical miles off the coast of Yemen, which killed one crew member, injured 12 others, and caused a spillage of 90,000 barrels of crude oil along 45 miles of coastline.^{vi} Pakistani naval facilities were also attacked by terrorists in 2009 and 2011. An attack on an Egyptian naval vessel was carried out by an organization supported by or directly linked to al-Qaeda or the Islamic State of Iraq and Syria (ISIS) in 2015. But it is the Sri Lankan government's fight against the LTTE where we have the richest source of documentation and history regarding terrorist maritime attacks. At the height of the LTTE's military effectiveness, the LTTE destroyed approximately one-third of Sri Lankan Navy coastal patrol craft, ocean patrol vessels, fast attack craft and gunboats.^{vii}

From the onset, the LTTE likely needed to conduct such devastating terrorist operations at sea because they *required secure sea lines of communications to supply their forces with the apparatus of modern warfare and used the open maneuver space of the sea to attack the Sri Lankan armed forces, government and economy.*^{viii} The first maritime terrorism operations in Sri Lankan waters took place in 1990 when the LTTE launched its first suicide missions against the Sri Lankan Navy surveillance command ships *Abeetha* and *Editharain*. In 1994, a suicide attack was launched against a Sri Lankan Navy patrol vessel.^{ix} This vessel, the *Sagarawardana*, was Sri Lanka's largest warship under the sub chaser class.^x In 1998, the LTTE damaged two Sri Lankan Navy vessels, killing over 50 Sri Lankan soldiers.^{xi} In 2000, LTTE suicide attack craft conducted seven separate attacks on Sri Lankan Navy vessels, destroying four fast attack craft and killing or wounding 13 sailors. In 2006, LTTE suicide attack craft conducted nine separate attacks, destroying six inshore and coastal patrol boats killing or wounding 58 sailors.^{xii} In these cases and others not mentioned for the sake of brevity, swarm tactics were used to conduct the violent and coordinated actions.^{xiii} One author has written that the LTTE's suicide craft, "*often indistinguishable and hidden among [the] attack craft, were used in swarm and suicide boat attacks.*"^{xiv} An understanding of swarm tactics is of particular relevance to other navies struggling to understand the terrorist threat at sea.

Swarming, according to one RAND study,^{xv} is an ancient form of fighting that is finding increasing popularity in the modern era. Swarm organizations typically show characteristics of autonomous or semi-autonomous behavior, an amorphous but coordinated way to strike from all directions with sustainable pulsing of force or fire, stand-off and close-in capabilities, and attacks designed to disrupt the cohesion of the adversary.^{xvi} According to the study, a key requirement for the swarm is to be able to strike at the target from different directions. There must be relatively large numbers of small units [or in our case, attack craft] that are well connected, from a communications or networked perspective as well as from a geographic or physical one.^{xvii} Like the wolf pack in the animal kingdom or German U-boats and Japanese kamikaze pilots during World War II,^{xviii} terrorist groups can "swarm" on the open water and high seas by coming together at the precise, opportunistic moment and location to inflict damage and then disperse quickly afterwards.

The implications for us, as Arquilla and Ronfeldt warn, is that "*...militaries may need to reexamine their close-in fighting capabilities and doctrines.*"^{xix} They observe, for example, that terrorist groups such as Hezbollah used swarming tactics to confront Israeli commando raids in southern Lebanon where Hezbollah's (swarming) tactic was to converge on targets of opportunity within a particular area, only to disperse quickly after such precision strikes.^{xx} As such, this may explain Israel's tactical withdrawal from

southern Lebanon perhaps due to some measure of inability to adapt to their adversary's swarming practices. These swarming tactics are unconventional to the conventional military. This is particularly true with the challenges that our navies around the world face in combatting terrorist threats from the sea. In the case of the Sri Lankan Navy that faced numerous terrorist attacks from the LTTE at sea, the navy grappled with how to develop doctrine and tactics that best countered the early successes of the LTTE at sea with their swarming tactics. The Sri Lankan Navy's experiences with the LTTE naval small boats can hopefully inform other navies that are struggling or may be struggling with this type of warfare waged by unconventional and non-traditional adversaries.

The Sri Lankan Experience and the rise of Small Boats

Sri Lanka's maritime challenges are vast within the context of the South Asia region. For example, the region *sits above a vital sea line of communication along which significant amounts of trade, including energy, travels from Southwest Asia, via the Malacca Strait, to industrial Asia.*^{xxi} Thus, the strategic location of Sri Lanka in the Indian Ocean makes it not only important to the Indian Ocean region, but also to global commerce, much of which flows through in the form of shipping in sea lanes just south of Sri Lanka. A strong navy, then, is paramount in protecting economic interests. How has Sri Lanka grown its navy over the years?

Sri Lanka's Navy and its experience with actual combat is noteworthy. Consider that from a maritime perspective, the Falklands War in 1982, between the United Kingdom and Argentina, is the last known conventional naval conflict, where two navies engaged each other on the high seas. Thus, in the modern era, practically all other navies have limited conventional combat experience repelling and destroying aggressors at sea. Since 1982, however, the Sri Lankan Navy has been the only navy in the world to engage in actual military naval combat operations of any significance, size and scope. And these operations were against a credible threat - the LTTE during Sri Lanka's civil war where the LTTE fought to create an independent Tamil state called Tamil Eelam in the north and the east of the island. This war was fought on land, on sea, and in the air, in conventional and unconventional ways over a period of 26 years. Finally, in 2009, the government of Sri Lanka successfully defeated the LTTE militarily and the civil war came to a close. What naval lessons can we learn from the Sri Lankan Navy as it battled and defeated the LTTE at sea?

During the height of the civil war, the LTTE fielded a sizeable naval capability to combat the Sri Lankan Navy and the government of Sri Lanka. The LTTE or "Sea Tiger" fleet consisted of upwards of 4,000 personnel organized into various sections of operations, logistics, communications, intelligence, and suicide operations, etc. The fleet fielded a number of indigenously built, fiber glass fast attack vessel types such as the four man *Thrikka* class craft, the six man *Suddai* class craft, the *Muraj* class craft, and finally, the two man *Idayan* class small boats that were usually primarily for suicide attacks on maritime targets.^{xxii} All craft, except for the *Idayan* class small boats, were fitted with one or more heavy machine guns. The *Idayan* class small boats were outfitted with explosives designed to detonate on impact with the target.^{xxiii} Small boats were deliberately employed for a number of good, tactical reasons.

Small boats are hard to detect by most sensors – they lie low in the water.^{xxiv} Small boats can take any shape or size. Additionally, the enemy's decision as to the choosing of the time, place and mode of attack against a naval or commercial platform is made easier by his ability to move a small boat or groups of small boats quickly to an area. Moreover, an innocent looking fishing vessel, a jet ski, a pleasure boat or any other specially designed small fast boat could easily be converted to a lethal suicide boat to carry high explosives to inflict heavy damages. Small boats have the advantage of maneuver in places where vessels have to maneuver at slow speeds, such as maneuvering through channelized shipping lanes or in other areas with traditionally high numbers of vessels. Armed with a high explosive payload, a small boat could

cause extensive damage and destruction at the most inconvenient location and at the most inconvenient time.

In short, small boats are a perfect and deadly tool of choice to employ devastating swarming tactics to achieve desired violent effects on the sea. Small boats disguised as typical fishermen in certain traffic congested areas can easily target merchant ships. As the vast majority of global commerce is carried out on the oceans, a single such attack on an oil or chemical tanker or even a passenger ship or cruise liner would have major impacts, politically as well as economically. In Sri Lanka's case, if a terrorist organization wanted to jeopardize the international maritime trade of Sri Lanka, they can easily do it by damaging or sinking large container ships such as a Maersk Triple E-class ship in Sri Lanka's capital and main home port, Colombo, using well-placed and highly connected small boats. A naval fleet can also easily be targeted by small boats especially at choke points such as going in and going out of harbors. A delay in harbor operations for even a few days, let alone weeks, would also be devastating.

Because of these reasons and the associated devastating effect that the sea-borne LTTE suicide small boats had on the Sri Lankan Navy, changes in strategy and doctrine had to be made. Sri Lankan Navy Vice Admiral Karannagoda developed a creative approach he called the "Small Boat Concept", based on new equipment and new tactics.^{xxv} In effect, the new tactic was to *out guerilla the guerilla*.^{xxvi} New tactics were desperately needed to combat the LTTE's use of swarm tactics through the use of numerous LTTE-deployed small boats, some of which were the *Idayan* suicide boats. The Sri Lankan Navy doctrine evolved to address how to combat LTTE's small attack boats with a much larger number of its own small boats - swarm against swarm. Thus, the Small Boat Concept was to counter the LTTE's swarming and suicide tactics with high-speed, heavily armed inshore patrol craft.^{xxvii}

According to one of the authors who participated in combat operations against the LTTE, the Sri Lankan Navy's strategy and thinking behind the Small Boat Concept was heavily informed by none other than a theory developed by a British engineer during World War I. Lanchester's Square Law^{xxviii} asserts that with regard to aimed fire, when confronting an enemy in battle, the numbers of fighting units are more valuable than fighting quality. He further stated that a commander is better off with twice as many units of force than with twice the rate of effective fire power. This theory and set of principles fully supported the initiation and fielding of the Sri Lankan Navy's small boat units.

The Sri Lankan Navy beginning in 2006 recruited officers and sailors from the naval community to operationalize this Small Boat Concept, informed by Lanchester's Square law. Two types of units were created – firstly, the Special Boat Squadron (SBS) and then the Rapid Action Boat Squadron. Individuals recruited for the SBS underwent extensive training, including some advanced training from US Navy Seals, US Green Berets, and Indian commandos.^{xxix} Their mission was primarily to use their small boats to conduct reconnaissance and surveillance inside LTTE-held territory. The other unit, the Rapid Action Boat Squadron, were trained to operate small boats using swarm tactics, employing as many as 25-30 craft^{xxx} during any one combat engagement against the LTTE Sea Tigers. The results of implementing the Small Boat Concept were crippling for the LTTE, as identified by a steady and then sharp decline in number of maritime attacks on the Sri Lanka Navy by the LTTE from the period of 2006-2008.^{xxxi} According to one author, the cumulative effect of the new small boat tactics *shattered the Sea Tigers*.^{xxxii}

One researcher commented that the *pivotal element of the government victory was the evolution of a successful maritime interdiction strategy by the SLN [Sri Lankan Navy]...the campaign of maritime interdiction required the SLN to attack LTTE ... maritime terrorism*.^{xxxiii}

Way Forward

While the initial adjustments to the navy were commendable, the Sri Lankan Navy continues to evaluate and plan improvements in the near and long term. Sri Lanka's journey may be instructive, particularly to nations with developing navies that face traditional and non-traditional threats from the sea.

According to Sri Lankan Navy Captain Damian Fernando^{xxxiv} a senior officer with combat experience against the LTTE at sea, the Sri Lankan Navy deliberately chose to rebalance the size and scope of its naval fleet composition with more focus and spending on building up its small boat fleet after its experiences with the LTTE at sea, examining how its naval capabilities could be maximized through the proper ratio and configuration of its fleet. For example, the concept of combining smaller fleet units with bigger vessels gave the Sri Lankan Navy the ability to better protect its traditional vessels such as frigates and battleships while at the same time provide a robust defensive capability through the small boats to address unconventional attacks from terrorist attacks at sea.

As vigilant as the Sri Lankan Navy has been with examining its military capabilities, there must be greater awareness on the civilian front, within the fisheries community about the importance of their role at sea. Fishermen should feel obligated to identify and report any suspicious or illegal activities. Failure to do so should be met with real consequences under the rule of law. Proper vetting and accreditation of local fishermen and their fishing vessels would likely improve the law enforcement agencies' ability to not only communicate more effectively with registered parties but also be better positioned to solicit fishing community support for reporting suspicious behavior. Along a similar theme of awareness and collaboration, education and coordination between the Navy and the Coast Guard and the Police can always be improved as each service understands the capabilities of the other and, perhaps, participates in more strenuous and rigorous joint exercises to test out integrated and joint capabilities against various threat-based scenarios.

Another important consideration moving forward is to create more opportunities for shared dialogue with relevant stakeholders in this important safety area. For example, Sri Lanka holds an annual international maritime symposium called the "Galle Dialogue", providing an appropriate setting to discuss the terrorist threat on the maritime domain. From a South Asia regional perspective, this topic could and should be part of the agenda at the South Asian Association for Regional Cooperation (SAARC), providing opportunities to engage in discussions that lead to bi-lateral or multi-lateral arrangements and resource sharing agreements.

Last but not least, Sri Lanka like other developing nations, has opportunities to engage with like-minded partner nations such as Japan, Republic of Korea, India, the United States, etc. to pursue joint training, education, and intelligence sharing to better collaborate against terrorist threats that are global in nature. As Sun Tzu said, *The art of war teaches us to rely not on the likelihood of the enemy's not coming, but on our own readiness to receive him; not on the chance of his not attacking, but rather on the fact that we have made our position unassailable.*^{xxxv}

A counter-terrorism strategy evolves based on the threats that a government must consider. While the land domain has been the scene of many a terrorist event in the past we should not rule out that the maritime domain may receive more attention from bad actors in the future. The Sri Lankan Navy's experiences fighting the LTTE at sea should give many pause as to consider not if but when terrorists may strike in the ports, harbors, waterways, and even on the open ocean. The use of small boats, although not high-tech or glitzy, should resonate with developing nations who are grappling with how to resize, refit, and rebalance their naval forces to prepare for the worst case scenario.

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The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any agency of the Government of the United States of America or of the Sri Lankan Defence Department.

ⁱVictor Asal and Justin V. Hastings, "When Terrorism Goes to Sea: Terrorist Organizations and the Move to Maritime Targets, Terrorism and Political Violence," *Terrorism and Political Violence*, 27. 4 (2015): 722-740.

ⁱⁱRohan Gunaratna, "The Asymmetric Threat from Maritime Terrorism," *Jane's Navy International*, September 24, 2001, 2.

ⁱⁱⁱAsal and Hastings, "When Terrorism Goes to Sea", 731.

^{iv}Norman Cigar, "The Jihadist Maritime Strategy: Waging a guerilla war at sea," *Middle East Studies – Marine Corps University*, 8, May 2017, 24.

^vIbid.

^{vi}Author Unknown, "http://news.bbc.co.uk/2/hi/middle_east/2334865.stm," accessed on December 6, 2017. 16 October 2002.

^{vii}Author Unknown, "Liberation Tigers of Tamil Eelam (LTTE)," *Jane's Navy International*, June 6, 2013, 10.

^{viii}Paul A. Povlock, "A Guerilla War at Sea: The Sri Lankan Civil War," *Small Wars Journal*, September 2011, 2.

^{ix}Author Unknown, "Maritime threat: tactics and technology of the Sea Tigers," *Jane's Navy International*, May 9, 2006, 3.

^xIbid., 21.

^{xi}Ibid.

^{xii} Sri Lankan Ministry of Defence, "Humanitarian Operation Factual Analysis: July 2006-May 2009," July 2011, 146-148.

^{xiii}Author Unknown, "Maritime Threat," 3.

^{xiv}Justin O. Smith, "Maritime Interdiction in Sri Lanka's counterinsurgency," *Small Wars & Insurgencies* 22, no. 3 (2011): 3.

^{xv}For background on swarming theory, see John Arquilla and David Ronfeldt, "Swarming and the Future of Conflict," Santa Monica, CA: RAND Corporation, 2000.

^{xvi}Ibid., 21.

^{xvii}Ibid., 22.

^{xviii}Ibid., 33.

^{xix}Ibid., 39.

^{xx}Ibid., 52.

^{xxi}Christopher Snedden, "Shifting Geo-Politics in the Greater South Asia Region," Honolulu, HI: Daniel K. Inouye Asia-Pacific Center for Security Studies, 2016, 11.

^{xxii}Pavlock, "A Guerilla War at Sea," 19.

^{xxiii}Author Unknown, "Liberation Tigers," 15.

^{xxiv}Author Unknown, "Maritime Threat," 3.

^{xxv}Smith, "Maritime Interdiction," 457.

^{xxvi}Pavlock, "A Guerilla War at Sea," 45.

^{xxvii}Smith, "Maritime Interdiction," 457.

^{xxviii}For background on Lanchester's law, see Frederick W. Lanchester, "Aircraft in Warfare: the Dawn of the Fourth Arm", London: Constable and Company, 1916.

^{xxix}Pavlock, "A Guerilla War at Sea," 32.

^{xxx}Ibid.

^{xxxi}Ibid., 38.

^{xxxii}Ibid.

^{xxxiii}Smith, "Maritime Interdiction," 449.

^{xxxiv}Captain Damian Fernando, Sri Lankan Navy, interview by co-author, Honolulu, HI, August 3, 2017.

^{xxxv}Sun Tzu, "The Art of War" (translated by Lionel Giles), April 7, 2017, Greyhound Press.