
7 The Threat to the Maritime Domain: How Real Is the Terrorist Threat?

Rohan Gunaratna

INTRODUCTION

Armed groups seek to attack aviation, maritime, and land transportation targets. In the class of threats, the terrorists' intentions and capabilities to strike transportation infrastructure have grown dramatically since September 11, 2001. Although land transportation remains more vulnerable to attack, aviation remains the preferred target of multiple threat groups. Since Al Qaeda used commercial aircraft to attack America's iconic targets, multiple attempts to target aviation have been detected and disrupted by security, intelligence, and law enforcement. The United Kingdom authorities disrupted an elaborate plot in August 2006 to attack a dozen aircraft from London bound for the United States. The threat has been sustained.¹ Similarly, the successful attacks on land transportation targets in Madrid on 11 March 2004, in London on 7 July 2006, and in Mumbai (formerly Bombay) on 11 July 2006 demonstrate both the dispersed and the enduring nature of the threat. The failed attack in London on 21 July 2006, and several attempts in continental Europe and elsewhere, demonstrate that the threat is recurrent.

To assess the current and emerging threat, it is necessary to understand how armed groups exploit the maritime domain. The lack of understanding of the guerrilla and terrorist interface with the maritime environment has led to a hyping of the threat. This has led the commercial and naval communities to invest billions of dollars in protecting and securing maritime assets. What is the real threat to onshore and offshore maritime infrastructure from sea, land, and air? This chapter will examine the development of maritime

Rohan Gunaratna is head, International Centre for Political Violence and Terrorism Research, Institute of Defence and Strategic Studies in Singapore. He is also a senior fellow, Fletcher School of Law and Diplomacy's Jebson Center for Counter-terrorism Studies, Boston; a senior fellow, National Memorial Institute for the Prevention of Terrorism, Oklahoma; an honorary fellow and member of the Advisory Council, International Policy Institute for Counter-terrorism, Israel; and a member, Steering Committee, George Washington University's Homeland Security Policy Institute. He holds a master's degree in international peace studies from Notre Dame, United States, where he was a Hesburgh Scholar, and a doctorate in international relations from St. Andrews, where he was a British Chevening Scholar. Dr. Gunaratna has over 20 years of academic, policy, and operational experience in counterterrorism. He led the specialist team that designed and built the UN database on the mobility, weapons, and finance of al-Qaeda, the Taliban, and their entities. He is the author of 12 books, including *Inside Al Qaeda: Global Network of Terror*, published by Columbia University Press, an international best seller. He serves on the editorial boards of *Studies in Conflict and Terrorism* and *Terrorism and Political Violence*, the leading counterterrorism academic journals.

terrorist and guerrilla capabilities and how guerrilla and terrorist groups have penetrated the maritime domain both to support their operations and to mount attacks.

UNDERSTANDING THE MARITIME DOMAIN

A study of maritime-capable groups worldwide demonstrates that only a few armed groups have developed the capabilities to mount attacks on maritime targets. Most groups exploit the maritime environment to transport goods and personnel.² The attacks in the aviation domain are not restricted to aircraft. Armed groups seek to attack not only aircraft, ships, and land transportation but also airports, ports, and land transportation hubs. Attacking an airport could have the same effect as attacking an aircraft. Similarly, an attack on a railway station could have the same effect as attacking a train. Likewise, an attack on a port will have the same effect as—or a greater effect than—an attack on a ship. Unlike the aviation and land transportation domains, the maritime domain does not naturally constitute an attractive domain to attack. The terrorist preference is to attack a high-profile national symbol. In a globalized world, an attack on an aircraft in any part of the highly visible aviation arena will have global implications. In contrast to damaging a ship on the sea surface, bombing an airliner in the skies or an international airport will draw extensive publicity and generate fear. As such, the threat to aviation and airports is very high compared to the threat to the maritime and land domains.

It has been argued that hardening aviation and airport targets has shifted the threat to maritime targets. Certainly threat displacement has taken place, but still, due to the potential for high publicity, the terrorist preference is to attack hardened targets. After 9/11, more than a dozen plots to attack airliners, both in the sky and on the ground, have been foiled or aborted. This demonstrates that contemporary terrorists are keen to identify the gaps and loopholes in security and penetrate the aviation domain rather than strike the maritime domain.

In most cases, guerrilla and terrorist groups will attack a maritime target only if it is attractive or profitable. Attacking a ship on the high seas is like a tree falling in the forest. Guerrilla and terrorist groups seek to mount low-cost, high-impact attacks. As armed groups seek publicity, their preference is to attack a target near the waterfront or in port. Furthermore, most groups do not have access to large boats or ships that can operate outside territorial waters. Except to steal cargo or kidnap personnel and passengers, the guerrillas and terrorists prefer to attack targets not far away from shore. As such, guerrilla and terrorist target choices reduce the threat to maritime infrastructure. By nature, most guerrillas and terrorists are landlubbers.

UNDERSTANDING THE MARITIME THREAT

Maritime guerrilla and terrorist capabilities are extensions of their land capabilities. However, maritime intentions are different from maritime capabilities. Translating intentions into capabilities requires significant human expertise (experience and training) and resources. If a guerrilla and terrorist group can develop its understanding and knowledge of the maritime environment, it will begin to exploit that domain. In the early phases, most groups use the maritime environment to support land operations and, second, to mount attacks.

At this point in time, only a few groups have the domain expertise. Even fewer groups have developed the capacities to operate out at sea. If they are to operate in a sustained manner, they must possess or have access to a fleet of craft, usually fishing craft, and seafarers. The overall terrorist and guerrilla know-how and understanding of operating in the maritime domain are limited. The body of knowledge and understanding is growing by direct transfer and by emulation. More armed groups are likely to mount guerrilla and terrorist tactics in the maritime domain in the future.

Among the contemporary terrorist and guerrilla groups, only half-a-dozen groups have developed maritime attack capabilities. The most prominent among them are the Palestinian Hamas, the Lebanese Hezbollah, the Abu Sayyaf Group (ASG), the Free Aceh Movement, the Moro Islamic Liberation Front, Al Qaeda, and the Liberation Tigers of Tamil Eelam (LTTE). We consider two case studies here: Al Qaeda and the LTTE. Of these two groups, the LTTE has built a state-of-the-art blue-, brown-, and green-water capability, both for support and for attack operations. To penetrate the maritime domain, the LTTE operations serve as a model for other terrorist and guerrilla groups.

THE LTTE MARITIME STRUCTURE

The LTTE maritime organizational structure provides insight into the future capabilities of terrorist and guerrilla groups seeking to operate in the maritime environment.

1. Sea battle regiments
2. Underwater demolition teams
3. Sea Tiger strike groups
4. Marine engineering and boat-building unit
5. Radar and telecom unit
6. Marine weapons armory and dump group
7. Maritime school and academy
8. Recruiting section
9. Political, financial, and propaganda section
10. Exclusive economic zone—marine logistics support team
11. Reconnaissance team and intelligence section
12. Welfare and registry.

The LTTE was able to build a robust maritime infrastructure because of the initial assistance it received from India's foreign intelligence service, Research and Analysis Wing (RAW). In 1986–1987, RAW trained LTTE members in Vishakhapatnam, a seaport in Andhra Pradesh, and facilitated the LTTE's construction of a blue-water fleet. After the LTTE declared war on the government of India in 1987, the LTTE maritime capabilities suffered extensively. After the LTTE support structures moved out of India's sphere of influence, the LTTE built up a state-of-the-art shipping and procurement network in Europe to procure and ship dual-user technologies and weapons. For instance, the LTTE procured 60 tonnes of high explosives from the Ukraine and transported it onboard MV *Baris* (previously MV *Illiyana*, and thereafter MV *Tara 1* and MV *Venus*) during the peace talks in 1994. After the shipping network in Europe was disrupted under Indian pressure, the LTTE strengthened its existing financial, procurement, and shipping network in Southeast Asia. The LTTE used its commercial presence in Southeast Asia to build

operational bases, primarily using Myanmar's island of Twante and, thereafter, Thailand's Pukhet. The LTTE boatyard in Pukhet was building a minisubmarine.

After the Thai authorities shut down the boatyard, the LTTE moved its boat-building activities to New Zealand. Boat designs procured in Australia and built in New Zealand were used in maritime suicide attacks in Sri Lanka.

As the LTTE is not an Islamist group, it is not perceived as a threat by most foreign governments. Thus, the LTTE continues to operate both in Sri Lanka and globally through front, cover, and sympathetic organizations. They include trading and commercial firms, especially fertilizer and shipping companies.

AL QAEDA'S MARITIME STRUCTURE

In contrast to the LTTE, Al Qaeda does not possess a permanent and robust infrastructure dedicated to maritime operations. Unlike the LTTE, Al Qaeda has neither a blue- nor a brown-water fleet. Although two dozen ships linked with Al Qaeda members, supporters, and families have been identified by the intelligence community, to date no ship has been intercepted transporting weapons. However, Al Qaeda mounted a number of terrorist attacks, successfully and unsuccessfully. Al Qaeda leadership tasked its operations leader in the Arabian Peninsula³—Abd al Rahim al Nashiri, alias Abu Bilal, alias Mullah Bilal, alias the Prince of the Sea, a specialist in explosives—to mount maritime attacks in 1999. Osama bin Laden specifically instructed al Nashiri to attack oil supertankers. A Saudi of Yemeni roots, al Nashiri operated largely out of Yemen, both with Al Qaeda and with other Islamist groups. He had links with individuals and groups in the Arabian Peninsula and North Africa.

As there was no dedicated maritime component in Al Qaeda, the rest of the organization assisted al Nashiri. For instance, Tawfiq bin Attash alias Khallad, deputy of Khalid Sheikh Mohamed (9/11 mastermind), visited with al Nashiri and his associates to support his operations both in the Middle East and in Southeast Asia. Al Qaeda studied LTTE maritime attacks recorded from international television.⁴ This enabled Al Qaeda to copy LTTE maritime tactics as well as develop its own repertoire of techniques. They included blowing up explosives-laden vessels near naval, merchant, and cruise ships; blowing up explosives-laden vessels at seaports; using big ships, including tankers, to crash into smaller vessels; diving aircraft into ships, including into an aircraft carrier; using underwater demolition teams to destroy ships; and sinking ships in narrow channels. Responsible for attacking the USS *Cole* and MV *Limburg*, al Nashiri succeeded in blowing up explosives-laden boats near naval and merchant ships.

Even in the conduct of maritime operations, Al Qaeda had no problem with working with like-minded individuals and other groups. As a result, Al Qaeda traces were found in maritime operations mounted by other groups. Al Qaeda trained in Iraq and funded an operational cell in Turkey that was planning and preparing to strike an Israeli cruise ship. Other leaders and members of Al Qaeda and its associated groups attempted a number of other maritime attacks. In Singapore, working with Al Qaeda, Jemaah Islamiyah (JI) members mounted surveillance on U.S. warships. Video footage of U.S. ships was recovered both in the residence of a JI member in Singapore and in the bombed residence of Abu Hafs in Afghanistan. In Malaysia, Al Qaeda associate group Kumpulan Militan

Malaysia (KMM) planned to kill U.S. sailors but, fearing retaliation, aborted the operation. Tawfiq bin Attash flew to Malaysia and planned to attack U.S. vessels in Port Klang in Malaysia. Al Qaeda's senior representative in Southeast Asia, Omar al Farouq, an Iraqi-Kuwaiti, and Ghalib, a Somali, planned a suicide attack on U.S. vessels exercising off Surabaya, Indonesia.

AL QAEDA'S MARITIME OPERATION

Al Qaeda developed its road to maritime attacks the same way most other threat groups graduate from support to attack operations. Al Qaeda used trawlers and other vessels to transport arms, ammunition, and explosives from Yemen to neighboring countries. In fishing vessels, Al Qaeda also transported explosives into Kenya for the east Africa attack in August 1998. An Al Qaeda cell in Yemen began planning to hit USS *The Sullivans* in the spring of 1999 and made preparations in the summer of 1999. Al Qaeda began recruiting Saudis of Yemeni background and Yemeni residents, including those who wished to be suicide operatives. Al Qaeda preparations included leasing a safe house for six months, installing a gate, procuring a truck, and procuring and modifying a boat to accommodate more explosives. On 3 January 2000, when USS *The Sullivans* arrived in port, the explosives-laden suicide boat was launched from a nearby beach. From its weight, the boat sank almost immediately. USS *The Sullivans* departed unaware of the attempt. The boat and explosives were recovered the next day for use in the USS *Cole* attack. As Al Qaeda in Yemen needed financing to execute the next attack, its members decided to meet with Tawfiq bin Attash in Singapore. As there were visa requirements for Singapore, they shifted the venue of the meeting to Thailand. Two Al Qaeda members, Nibras and Quso, departed for Bangkok, where they met with Khallad, who gave them the money. After returning to Yemen, they made preparations in the spring and summer of 2000 to attack the USS *Cole*.

In preparation for the USS *Cole* attack, Al Qaeda built a much more extensive land infrastructure. A metal fence was built around the house it rented in an Aden suburb to keep its activities hidden from neighbors. In addition to renting a new safe house and adding a higher fence, Al Qaeda rented another apartment with a harbor view. This safe house functioned as the perfect observation post. Al Qaeda modified the boat, painted it, laid a red carpet, and refitted the insulation. Although the neighbors reported the noise of construction and power outages, the authorities failed to investigate. Compared to the USS *The Sullivans* attack, the investment Al Qaeda made to ensure the success of the attack on USS *Cole* was significant. Learning from the USS *The Sullivans* failure, Al Qaeda rehearsed the operation. To ensure that the boat had the right quantity of explosives, Al Qaeda conducted a dry run. Al Qaeda even tested the explosives. One month before the attack, in keeping with the standard operating procedure for Al Qaeda leaders, al Nashiri departed for Afghanistan.

The USS *Cole*, a guided-missile destroyer (DDG), had a crew of 346. The 154-meter-long and 21-meter-wide ship had a displacement of 8,422 tons. The ship had a maximum speed of 33 knots. Its armaments included anti-aircraft missiles, anti-ship missiles, torpedoes, a five-inch gun, and Phalanx close-in weapon system. The sequence of events was:

- 0849 local—USS *Cole* moors for refueling in Aden Harbor.
- 1115 local—Ship is approached by small boat; two adult males are aboard.

- 1122 local—Boat comes along port side of USS *Cole*.
- Detonation occurs immediately afterward.

The execution phase of the attack was less than 30 minutes; the attack phase was seven minutes. The sneak attack killed 17 and injured 42, most sailors gathering at the galley area for lunch. The repairing of the ship cost \$250 million. The \$1 billion ship was out of commission for two years. The U.S. government did not retaliate against Al Qaeda. In the eyes of the jihadists, USS *Cole* was America's state-of-the-art warship. In retaliation for the attacks on the U.S. embassies in east Africa in August 1998, USS *Cole* had fired cruise missiles at the Al Qaeda camps in Afghanistan. As such, the attack against USS *Cole* was considered a huge victory. Al Qaeda wanted to exploit the publicity to recruit and generate support. Using a secret pager code, Al Qaeda leadership had instructed Quso to videotape the attack, but he overslept on the day of the attack. Osama bin Laden was keen to screen the USS *Cole* attack video at his son's wedding in early 2001. Osama authorized \$5,000 to buy the camera equipment and videotape the attack. Thus, Quso did not endear himself to Osama. Although the failure to videotape the attack was a disappointment personally for Osama, the attack itself was a significant victory for Al Qaeda.

Two years after the attack on USS *Cole*, Al Qaeda reconstituted its personnel and resources to mount a second attack in Yemen. The next visiting U.S. warship was to be the next target. But when the naval ship failed to turn up, Al Qaeda attacked MV *Limburg*, a target of opportunity. A very large crude carrier (VLCC), the 25-crew MV *Limburg* was Belgian owned and French flagged. The 332-meter-long and 58-meter-wide ship has a displacement of 300,000 tons. MV *Limburg* has a capacity for 2.16 million barrels, but the cargo at the time of the attack was 397,000 barrels. Early in the morning on 6 October 2002, when *Limburg* was within visual range of shore (approximately three nautical miles), an attack boat rammed the starboard (seaward) side. The oil tanker was moving slowly toward the terminal, and a pilot boat was coming along the port side. While one crew member was killed, 90,000 barrels of oil spilled. As in the USS *Cole* attack, a safe house was used with a walled courtyard, and the boat was transported to a launch site just before the attack. Directed by al Nashiri, two suicide bombers in an explosives-laden boat attacked the near-stationary vessel. Unlike in the case of the USS *Cole*, Al Qaeda targeted an oil tanker instead of a warship. Furthermore, Al Qaeda leveraged an existing indigenous extremist network. It consisted of former members and supporters of the Islamic Army of the Abyan, a group that was dismantled by the Yemeni authorities two years earlier. The Al Qaeda plan was for the attack on MV *Limburg* to coincide with a simultaneous land-based attack. Although the Al Qaeda leadership had mentioned economic targets, the attack shocked the maritime community. The Yemeni authorities briefly held the ship owner, thinking that an accident on board the *Limburg* had caused the oil to spill.

Within a month of the attack on MV *Limburg*, al Nashiri was tracked down and captured. Al Nashiri was escaping from Yemen to Malaysia at the time. He was planning and preparing several maritime operations. When al Nashiri was arrested in November 2002, a 180-page dossier of targets was recovered from his laptop. An operation al Nashiri was planning against U.S. and UK ships in the Strait of Gibraltar, off the northern coast of

Morocco, was disrupted in June 2002. Three Saudi Al Qaeda members with Moroccan wives pretending to be businessmen constituted the attack team. They had received \$5,000 and direction from al Nashiri to mount reconnaissance on both land and maritime targets. When the Al Qaeda reconnaissance cell was disrupted in June 2002, no explosives were found. NATO maritime forces responded by boarding high-risk and suspicious ships, and German naval ships escorted tankers through the Strait of Gibraltar.

MARITIME ATTACK CAPABILITIES

Most terrorist and guerrilla groups can build maritime support capabilities by chartering ships or leasing boats. But to mount sustained attacks, they must build their own fleet and personnel. Unlike the LTTE, Al Qaeda failed to harness its existing expertise to operate in the maritime domain. Al Qaeda failed to build a dedicated maritime infrastructure of personnel and resources to attack maritime assets. Although Al Qaeda had experts who understood the maritime domain and operational infrastructure, it failed to grow its expertise. This was largely because the group's capabilities were scattered and had no permanent safe haven near the sea.

After the attack on USS *The Sullivans* failed, Al Qaeda explosives expert Abdul Rahman al Mohajir al Masri designed a shaped charge. A trainer at al Farook in Mes Aynak, southeast of Kabul (before the camp moved in 2000 to Kandahar), Abdul Rahman al Mohajir served under Abu Mohamed al Masri and later Hamza al Rabbiyah, the successive heads of training.⁵ His reputation as the successful designer of the USS *Cole* attack was such that the leader of Al Qaeda in Iraq, Abu Musab al Zarqawi, requested the then-head of Al Qaeda's external operations, Faraj al Libi, to dispatch Abdul Rahman al Mohajir to Iraq.⁶ Instead, the Al Qaeda leadership on the Pakistan-Afghanistan border offered Hamza al Rabbiyah, but Zarqawi preferred Abdul Rahman al Mohajir. Zarqawi, who had mounted one maritime attack, was keen to use his expertise to mount more maritime attacks. Zarqawi also funded an attack on an Israeli cruise ship in the Turkish Mediterranean port of Antalya. However, Zarqawi, too, failed to develop a permanent operational infrastructure—both personnel and resources—dedicated to attacking maritime targets.

Immediately after Operation Enduring Freedom began in Afghanistan, Al Qaeda also considered hijacking an aircraft and crashing it onto a U.S. aircraft carrier in the Indian Ocean. The U.S. government released a NOTEM (note to mariners) of the impending threat. Until Al Qaeda operational leaders with the competence to operate in the maritime domain were captured or killed, Al Qaeda's maritime capabilities focused on mounting surface operations. Nonetheless, Al Qaeda was planning to build an underwater-diving capability. Recoveries from the residence of Abu Hafs al Masri, alias Mohammed Atef—the Al Qaeda military commander killed in November 2001—included a diving manual. The Al Qaeda documents indicated that the group had recruited a specialist who understood diving, diving medicine, and closed-circuit and semi-closed-circuit gear. As the group needed operational cover, Al Qaeda intended to enlist the support of commercial and recreational divers to build an underwater-diving capability. Furthermore, Al Qaeda had plans to establish its own diving schools. When Al Qaeda's infrastructure in Afghanistan was dismantled and its plans disrupted, its associated groups invested in building diving

capabilities in Europe and in Asia. Although the Al Qaeda attempt to penetrate a diving school in Holland was detected, its training activities continued uninterrupted in Southeast Asia. With the assistance of Arab diving instructors, the ASG in the Philippines has trained at least 40 of its members in Jolo in the Sulu Archipelago and Mindanao since 2001.

With the diffusion of Al Qaeda's ideology of global jihad focusing on killing Westerners in large numbers, several of its associated groups are behaving like Al Qaeda. On 27 February 2004, ASG mounted an operation using a member of the Rajah Solaiman Revolutionary Movement. Redento Cain Dellosa, trained by JI, planted an explosives-laden television set in the tourist compartment of *SuperFerry 14*, plying between Manila and the southern Philippines. Next to the television improvised explosive device, the bomber left a plate of hot food to indicate that he was a passenger who had briefly stepped out of his cabin. The explosion and the subsequent fire killed 118 passengers; it was the worst maritime terrorist attack in history. Several other attempts to bomb ferries, before and after the sinking of *SuperFerry 14*, were frustrated by the Philippine authorities. However, the threat of terrorist groups planting bombs on ferries is very real, both in Southeast Asia and beyond. Thus, future maritime threats to ships will not only be from surface and underwater attacks but also from bombs carried on board the ships.

LESSONS IDENTIFIED

Most guerrilla and terrorist groups learn incrementally. Most groups are not innovative but imitative. Contrary to the prevalent view, they learn both by emulation and technology transfer. More than benefiting from the direct transfer of technologies, they copy technologies, tactics, and techniques. For instance, Al Qaeda's attack on USS *Cole* was a copycat of the LTTE's attack on *Abbeetha*, a Sri Lankan navy supply ship. On 4 May 1991, *Abbeetha* was anchored six miles north of Point Pedro, northern Sri Lanka, when an explosives-laden suicide boat rammed it. The attack caused extensive damage to the ship, and killed six and injured 18 naval personnel. The LTTE maritime suicide wing (Black Sea Tigers) members Captain Sithambaram and Captain Jeyanthan were also killed.

Similarly, it is very likely that one attack inspires another. After the alarm and publicity generated after Al Qaeda's attack on the USS *Cole* on 12 October 2000, many terrorist and guerrilla groups became interested in mounting attacks in the maritime domain. Within a month of the USS *Cole* suicide bombing on 12 October, the terrorist "copycat effect" was demonstrated. LTTE suicide stealth boats breached the defenses of Trincomalee, the most protected Sri Lankan naval port, and destroyed a fast personnel carrier on 23 October; and a Palestinian Hamas suicide boat attacked an Israeli naval craft on 7 November 2000. As the bomber detonated prematurely, only the skin of the Israeli craft was damaged.

Since 9/11, Al Qaeda has become operationally weak but it has provided its associated groups both the inspiration and the knowledge to conduct maritime terrorist attacks. Although Al Qaeda itself is capable of mounting maritime attacks, the greater threat to maritime security stems from Al Qaeda's associated groups in Asia, Africa, the Middle East, and the West. In Pakistan's Federally Administered Tribal Areas (FATA) and in Iraq, Al Qaeda has suffered the death or incarceration of its specialist bomb makers, but there are others who understand how to plan, prepare, and execute maritime

operations. Nevertheless, Al Qaeda continues to inspire both its associated groups and homegrown cells—especially those trained by Al Qaeda in FATA and elsewhere—to mount maritime attacks. Similarly, using its multimedia arm Al Sahab, Al Qaeda inspires the wider global jihad movement to operate on land, sea, and air. As a matter of fact, the first of over 100 videos produced by Al Sahab was on the USS *Cole*. In it, celebrating the *Cole* attack at his son Mohamed's Kandahar wedding in February 2001, Osama bin Laden is shown reciting a poem stating, "And in Aden, they charged and destroyed a destroyer that fearsome people fear, one that evokes horror when it docks and when it sails." Although the poem does not name the warship, the film flaunts an image of a fiery explosion with superimposed Arabic words, "the destruction of the American Destroyer Cole."⁷

To attack maritime targets, terrorist groups build their support and operational infrastructures on land, not at sea. Thus, the logical starting point in preventing future maritime attacks is to disrupt and degrade the terrorist infrastructure on land. The USS *The Sullivans*, USS *Cole*, MV *Limburg*, and several other case studies demonstrate that both maritime terrorism and piracy should be fought on land. As the terrorist and criminal infrastructure and personnel are based on land, they can be identified and targeted much more effectively by law enforcement and intelligence services operating on land. The failure to detect the planning and preparations of a maritime terrorist or piratical attack on land will lead the terrorist group or the criminal group to successfully launch the maritime attack. In a maritime terrorist or piratical attack, the time the terrorists and pirates spend out at sea is a few minutes. Unless the method, the place, and the exact time of the attack is known, it is not possible to interdict a maritime terrorist or piratical attack out at sea. As such, the maritime police units and navies have a very limited opportunity to successfully respond to maritime terrorism and piracy.

CONCLUSION

Most threat groups exploit the maritime domain for support, not offensive operations. More groups are interested in developing and expanding their range of maritime capabilities. Over time, most threat groups with access to water move from conducting support operations to guiding surface and underwater attack capabilities. Traditionally maritime terrorist technologies originated in the Middle East, but now they can be seen increasingly in Asia. In the coming years, the Asian threat groups are likely to innovate certain technologies and tactics that Middle Eastern groups are likely to copy.

Compared to the threat to aviation and land transportation, the threat from terrorism to naval ships and commercial shipping is medium to low. While the maritime assets are vulnerable to terrorist attack, the actual threat to maritime assets is medium to low for two reasons. First, very few terrorist groups have the capabilities to attack maritime targets. Second, very few attractive maritime targets could be attacked without expending many resources. Although naval vessels can be protected by enhanced perimeter security, it is neither feasible nor cost effective to protect every merchant vessel. An effective strategy for consideration by law enforcement and intelligence services should include (a) creating dedicated maritime counterterrorist commands to target terrorist groups with land-based maritime assets; (b) securing waterways used by ships operating in areas

where terrorist and criminal groups are active; and (c) protecting cruise liners, oil tankers, liquefied natural gas and liquefied propane gas carriers, and other vessels transporting strategic cargo operating in areas where terrorist and criminal groups are known to be active.

The threat of a maritime attack is of low probability. Depending on the target attacked, the consequences can be medium or high. As 95 percent of the world's trade moves by sea, even if ten vessels are attacked in a single day, shipping will continue. Certainly the rising insurance premiums and investment in security will increase the cost of transportation and goods. However, the dependence of nations on the maritime component of trade and commerce is of such paramount consideration that governments and the private sector will not seek alternative modes of transport. If the number of maritime attacks increases, governments and the private sector will invest excessively in securing the maritime domain. As of today, most of the investment to secure the maritime domain is driven by fear, not by an understanding of the threat. At the dawn of the twenty-first century, with the emergence of Al Qaeda, a trendsetter, the global maritime threat landscape has been changed forever.

NOTES

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1. On 22 December 2001, Richard Reid, wearing a triacetone triperoxide-laden operational shoe bomb, boarded a Paris-to-Miami American Airline flight. In Operation Snagged, an identical shoe bomb was recovered from 44 St. James Street, Gloucester, UK, on 27 November 2003. In Operation Dover Port, Andrew Rowe was arrested at a port in France on 26 October 2003. He was planning to attack Heathrow. On 15 September 2004, a fully operational shoe bomb mailed from Thailand to California was detected at the Carson mail facility in California. In 2005, an Algerian terrorist prosecuted in Northern Ireland had a manual advising the bomber to detonate his shoe bomb in the aircraft toilet. International Center for Political Violence and Terrorism Research Global PathFinder Database, www.icpvtrdatabase.org (accessed 11 November 2006).
2. It is very much like the terrorist and the extremist use of the Internet. Instead of mounting attacks on information infrastructure, terrorist and guerrilla groups use the Internet to disseminate propaganda, raise funds, train, rehearse, and coordinate operations. Likewise, the maritime domain is primarily a medium to support operations and not to mount attacks.
3. Al Nashiri, the first head of the Al Qaeda organization in the Arabian Peninsula, was succeeded by Yousef al Ayyeri. After al Ayyeri was killed by Saudi security forces in May 2003, Abu Hazim al Shair al Yemeni, a former bodyguard of Osama and a poet, was appointed. Abu Hazim al Shair recruited pilots to attack Heathrow. Abu Hazim al Shair was succeeded by Abdu Aziz al Mukrin. After al Mukrin was killed, he was succeeded by Salih Sufi. There has been a very high attrition rate of the Al Qaeda leadership in the Arabian Peninsula. As the bulk of the recruits and finance for Al Qaeda originated in the Arabian Peninsula, Osama handpicked the leaders of the Arabian Peninsula. While most of them were former bodyguards of Osama bin Laden, they had long-standing contact with Khalid Sheikh Mohamed and Tawfiq bin Attash, also a former bodyguard of the Al Qaeda leader.
4. CNN's Nic Robertson recovered about 200 tapes from the Al Qaeda registry in Afghanistan. These included several clips of LTTE maritime attacks. Nic Robertson, "Tapes Shed New Light on bin Laden's Network," *CNN.com*, 19 August 2002, archives.cnn.com/2002/US/08/18/terror.tape.main/index.html.
5. After Al Qaeda was dislodged from Afghanistan, Abdul Rahman al Mohajir accompanied Hamza al Rabbayah to South Waziristan and thereafter to North Waziristan. Under pressure from the Pakistani military, Al Qaeda

dismantled its camps in South Waziristan and moved to North Waziristan to establish camps. Only the Chechens, Uighurs, and central Asian jihadists of the Islamic Movement of Uzbekistan remained in the south. When Abdul Rahman al Mohajir was killed by Pakistani forces in April 2006, he was head of training in Waziristan.

6. Zarqawi's driver was captured and Zarqawi's computer seized by the United States in February 2005. Correspondence recovered from the computer showed that instead of Abdul Rahman al Mohajir, Faraj al Libi offered Hamza al Rabbayah. Later Faraj al Libi told CIA interrogators that Zarqawi did not have the skills of Hamza al Rabbayah and that is why Zarqawi insisted on Abdul Rahman al Mohajir.
7. "A Claim for the Cole: Bin Laden Recruitment Tape Boasts the Bombing of the USS Cole," CBS News, 20 June 2001, www.cbsnews.com/stories/2001/06/20/world/main297600.shtml.