

BACKGROUND

No. 2889 | MARCH 19, 2014

Taiwan's Maritime Security: A Critical American Interest

Dean Cheng

Abstract

Taiwan's security is inextricably linked to the sea. Indeed, the nation's economic livelihood, as well as its national security, requires that Taipei secure the surrounding waters and have access to global sea-lanes. Consequently, Taiwan's ability to field a modern navy is an essential element of its national security strategy. The Taiwan Strait is a key international waterway, and preserving its stability is in the American interest. Furthermore, per the Taiwan Relations Act, America is legally obligated to help this democratic island provide for its maritime security. Therefore, the United States should support Taiwan's military modernization, both by providing access to modern systems and by facilitating the island nation's interaction with its own and other, friendly militaries.

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Background

An island nation, Taiwan is one of the most densely populated territories on Earth. With an area of about 36,000 square kilometers and a population of approximately 23 million, Taiwan has a popu-

KEY POINTS

- The United States remains committed to the security of Taiwan, both in support of a long-standing democratic friend and because such a commitment is consistent with American interests.
- That pledge, however, cannot be simply rhetorical; it must also reflect the concrete realities of the cross-Strait military balance.
- The PRC has not given up its desire for reunification with Taiwan and has made substantial investments in its military to support the option of using armed forces to that end.
- PLA doctrine calls for the ability to engage in maritime operations, as well as in air and other domains, for contingencies that could include Taiwan.
- Taiwan's ability to defend itself at sea is essential to its overall ability to defend itself.
- The United States should therefore support Taiwan's military modernization, both by providing access to modern systems and by facilitating the island nation's interaction with other, friendly militaries.

This paper, in its entirety, can be found at <http://report.heritage.org/bg2889>

Produced by the Asian Studies Center

The Heritage Foundation
214 Massachusetts Avenue, NE
Washington, DC 20002
(202) 546-4400 | heritage.org

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lation density of over 630 persons per square kilometer. This population is almost entirely dependent on imports for its energy needs and for a substantial portion of its food. Taiwan imports almost all of the 72 million short tons of coal and most of the 1.1 million barrels per day of oil that it consumes.¹ In 2008, Taiwan depended on imports for 99.23 percent of its energy; more recent data suggest that this proportion has not changed significantly.²

While Taiwan grows a large portion of its daily caloric intake, it also depends on imports for a significant portion of its food supply. One study suggests that about one-third of Taiwan's food is grown on the island, while 68 percent is imported. In particular, while domestic suppliers provide key items such as rice, fruit, vegetables, and fish, the island depends on foreign suppliers for basic staples such as corn, wheat, and soybeans.³

In essence, Taiwan's security—indeed, its very survival—is linked to the sea.

In essence, then, Taiwan's security—indeed, its very survival—is linked to the sea. Air transport, even if it were unmolested, cannot supply the food and energy needs of 23 million people. While items can be moved more quickly by commercial air transport or military airlift than by sea, the tonnage is minimal compared with that of commercial or military seaborne transport. As one RAND analysis has noted, moving cargo a distance of 4,000 nautical miles over 36 days, a fleet of C-17s could move only about 72,000 tons compared with almost 4 million tons by medium-speed roll-on/roll-off ships.⁴ This disparity explains why most cargo moves by sea.

Not only is Taiwan dependent on the sea, but it also occupies a key position in the “first island chain” that separates the People's Republic of China (PRC)

from the open Pacific Ocean. As such, it serves as an essential “cork in the bottle,” limiting the ability of the Chinese navy and air force to reach into the Central Pacific. At the same time, given its location—less than one hundred miles from China's shores—it is vulnerable not only to China's air force and missile assets, but also to its full array of naval forces.

The View from Across the Strait

For the People's Republic of China, the eventual reabsorption of Taiwan has long been—and still is—a priority. According to the Chinese, the inability to unify a nation means that there is a significant weakness in the political component of “comprehensive national power.” Not surprisingly, one of the factors shaping the People's Liberation Army (PLA) has been creating the ability to take the island if and when the political leadership in Beijing deems it necessary.

At the same time, China's own economic situation has increased Beijing's dependence on the seas. Many of China's energy and raw materials imports, as well as exports of manufactured goods, also travel by sea. The maritime domain is now an essential part of Chinese national security and national interest calculations.

For both defensive and offensive purposes, then, the People's Liberation Army must take maritime security into account. The PLA has been modernizing since the mid-1990s, and the PLA Navy (PLAN) has been the recipient of a significant portion of this additional funding. Consequently, the PLAN's capacity to conduct sea denial operations and support military operations against Taiwan has increased, as has its ability to protect China's economic center of gravity, now centered on the coast.

These evolving requirements now being imposed on the Chinese military are reflected in the “New Historic Missions” speech that Hu Jintao delivered to the PLA in 2004. In his speech to the senior mili-

1. U.S. Energy Information Administration, “Taiwan Country Notes,” <http://www.eia.gov/countries/country-data.cfm?fips=TW> (accessed January 23, 2014).

2. United States Environmental Protection Agency, “Energy Supply, Demand, and Consumption,” http://unfccc.epa.gov.tw/unfccc/english/04_our_efforts/03_efforts.html; Benjamin Fox, “Taiwan's Energy Security Battle,” *The Diplomat*, April 18, 2011, <http://thediplomat.com/china-power/taiwans-energy-security-battle/> (accessed January 23, 2014).

3. Audrey Wang, “The Road to Food Security,” *Taiwan Review*, July 1, 2011, <http://taiwanreview.nat.gov.tw/ct.asp?xItem=167684&CtNode=1337> (accessed January 23, 2014).

4. Mahyar Amouzegar, Ronald McGarvey, Robert S. Tripp, et al., *Evaluation of Options for Overseas Combat Support Basing* (Santa Monica, Cal.: RAND Corporation, 2006), p. 47, http://www.rand.org/content/dam/rand/pubs/monographs/2006/RAND_MG421.pdf (accessed January 23, 2014).

tary leadership, Hu Jintao, who had just assumed the position of chairman of the Central Military Commission, outlined the PLA's new responsibilities in the 21st century. These charges include:

- Ensuring that the Chinese Communist Party is able to consolidate its ruling position;
- Providing a strong security guarantee to safeguard this period of strategic opportunity for national development, which includes enforcing Beijing's claims over disputed or potentially separatist territories—including Taiwan;
- Providing strategic support for the safeguarding of national interests, which specifically requires preserving China's equities in the maritime, outer space, and cyber-space domains; and
- Helping to safeguard world peace and promote common development.⁵

As one PLA analysis observed, the Chinese military must “[n]ot only maintain national survival interests, but we must also maintain national development interests. Not only must we maintain territorial, territorial waters, and airspace security, but we must also maintain maritime, space, and electromagnetic spectrum security, as well as other aspects of national security.”⁶ Consequently, the PLA remains focused on preparing for a possible Taiwan contingency even as its portfolio expands to contesting the maritime, space, and cyber commons. For the Chinese military, it is not a matter of doing one or the other, but, increasingly, of doing all of these things.

PLA Planning: Joint Blockade and Joint Amphibious Campaigns

In order to fulfill these “new historic missions,” the PLA must be able to undertake a number of dif-

ferent types of campaigns. In particular, with regard to Taiwan, China must be able to execute joint operations (i.e., operations in conjunction with other services) such as joint blockading campaigns and joint amphibious landing campaigns.⁷ Each of these campaigns, in turn, imposes significant requirements on the PLA.

The PLA Navy's capacity to conduct sea denial operations and support military operations against Taiwan has increased, as has its ability to protect China's economic center of gravity, now centered on the coast.

Specifically, a joint blockade campaign (which would include both air and naval measures) will require extensive forces; even though such operations may not be extremely violent, they are likely to be protracted. In order to sustain such a campaign, there must therefore be sufficient forces not only to break a target nation's air (ALOC) and sea-lanes of communications (SLOC), but also to keep them closed for an extended period.

Key tasks in a joint blockade campaign include the following:⁸

- **Finding and Eliminating Enemy Naval and Maritime Forces.** PLA Navy forces (including submarines and PLA Naval Air Force units) will be tasked with striking and destroying enemy naval forces, both at sea and in port. Key targets will include submarines and anti-submarine warfare (ASW) elements, surface combatants, and mine countermeasure forces. The PLAN will concentrate its own forces to create local superiority over enemy forces and destroy key targets as early as possible.

5. James Mulvenon, “Chairman Hu and the PLA's ‘New Historic Missions,’” *China Leadership Monitor*, No. 27, p. 2, <http://media.hoover.org/sites/default/files/documents/CLM27JM.pdf> (accessed January 23, 2014).

6. Xu Guoping, “Hu Jintao's Vital Ideas Regarding the New Trends in National Defense and the Military,” PLA National Defense University, College of Defense Studies, <http://www.cdsndu.org/cn/zgjs/jssx/jssx-hjtjssl.htm> (accessed January 23, 2014).

7. Not all PLA operations would necessarily be joint; the PLA would also operate as individual services. However, in the context of this paper, the most important missions are likely to be joint campaigns.

8. Zhang Yuliang, *The Science of Campaigns* (Beijing, PRC: National Defense University Publishing House, 2006), pp. 302–305.

- **Sealing Off Enemy Naval Bases.** If the PLAN can prevent Taiwan’s naval forces from ever sailing (or taking to the air), the task of closing Taiwan’s ALOCs and SLOCs would be that much easier. Consequently, another key task will be to seal off major naval bases through a combination of mines, blockships, submarine barriers, and the implementation of patrol zones where identified targets can be attacked.
- **Striking Enemy Ports.** The destruction of enemy port facilities will relieve some of the pressure on blockading forces by ensuring that even if merchant ships elude patrols, there will be few places for them to unload their cargoes. The destruction of facilities at container ports can be especially devastating, since few modern merchant ships are equipped with their own cranes or other means of off-loading their cargoes. Thus, the destruction of the specialized cranes and cargo-handling equipment can leave a cargo ship stranded, unable to discharge its cargo.

In a joint blockade situation, naval forces, including surface, subsurface, and air units, will play a key role in all of these tasks, operating in conjunction with PLA Air Force (PLAAF), Second Artillery, and even ground force units (e.g., special operations teams). Naval forces, of course, will also be an essential part of locating, identifying, and intercepting merchant ships at sea—whether redirecting them away from Taiwan’s ports or, if necessary, sinking them. In addition, PLAN forces will also have to secure China’s own sea-lanes, a task that will require anti-submarine operations, mine sweeping, and defense of Chinese ports and naval bases.

For joint amphibious campaigns, PLA writings emphasize that it is essential to be able to establish “the three dominates”—information dominance, air dominance, and maritime dominance.⁹ Only by controlling these three domains “can one properly secure the initiative for a landing campaign.”¹⁰ Establishing dominance over the air and sea domains, however, does not rely solely on the PLA Navy. As the PLA textbook *The Science of Campaigns* observes, the PLA should use intermediate

and short-range ballistic missiles, as well as special operations forces and air force units, to strike the enemy’s early warning, command and control, communications, and air defense systems to neutralize its ability to coordinate an effective response.¹¹

Meanwhile, establishing information dominance will entail a combination of kinetic, hard-kill measures and cyber and other soft-kill strategies in order to disrupt an opponent’s ability to gather, transmit, and exploit information. Information dominance is essential in order to secure the initial lodgment; otherwise, an opponent could strike the amphibious forces at their most vulnerable. For this reason, Winston Churchill’s observation that “In wartime, truth is so precious that she should always be attended by a bodyguard of lies” is often associated with the deception operations that supported D-Day.

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Nonetheless, naval forces will be an essential part of any joint amphibious campaign. The PLAN will implement naval offensive operations to control the maritime approaches to the intended landing zones and ensure that landing forces, once loaded aboard their transports, can be shepherded to the landing sites. Such operations will resemble the activities associated with joint blockade operations, with the same goal of preventing the enemy’s naval forces from sortieing and intercepting the landing forces.

In conjunction with PLAAF and Second Artillery forces, naval PLAN forces will strike enemy air and naval bases and engage in electronic and information operations designed to blind and confuse the opposition. Enemy forces at sea will be a priority for destruction in order to create local maritime superiority. Preparatory to an invasion, offensive minefields will be laid by a combination of subma-

9. Ibid., pp. 316–323.

10. Ibid., p. 311.

11. Ibid., p. 313.

rines, aircraft, fast attack craft, and possibly civilian vessels to delay, if not destroy, enemy naval force deployments.¹²

Additionally, PLAN forces will escort amphibious forces to their target beaches and support the landing operations. This force will provide naval fire support for the landing operations, mine sweeping of the maritime approaches to the landing area, and the deployment of barrier patrols to prevent enemy interference, whether by submarines, surface forces, or special operations units.¹³

PLAN Forces¹⁴

Fulfilling such an array of responsibilities requires a substantial navy. Such a force will include not only a variety of naval combatants to provide air and surface defense, but also support vessels such as minesweepers, as well as amphibious vessels including air cushion vehicles and more specialized landing craft. In addition, the PLA Naval Air Force (PLANAF) will play an essential role in identifying and striking enemy maritime targets, laying mines, striking key shore facilities, and providing electronic warfare support.

Fortunately for the PLAN, it has benefited from 25 years of continuous budget increases. The PLAN has transitioned from (1) a navy focused on coastal defense operations to (2) a force capable of operating—and potentially dominating—the “near seas” (i.e., waters within the first island chain stretching from Japan and Korea in the North through Taiwan and the Philippines to the Straits of Malacca) to (3) a force operating in the “far seas,” the waters of the central Pacific and even the Indian Ocean.

Through a methodical improvement in Chinese naval construction, today’s PLAN fields an array of substantially more capable platforms. In the event of a cross-Strait crisis, the Chinese navy will not be forced to rely on masses of inadequate, obsolete platforms; it will be capable of deploying sophisticated surface and subsurface combatants supported by naval strike assets.

To this end, the PLAN is building several new nuclear-powered (Type 093) attack submarines,

which are believed to be quieter than the older *Han*-class boats dating back to the 1980s. China in the past has acquired a dozen Russian-built *Kilo*-class submarines, some of the world’s quietest diesel-electric submarines, and there have been reports of renewed Chinese interest in purchasing additional boats. China also continues to operate approximately 20 obsolescent *Ming*-class submarines, modified versions of the 1950s Russian *Romeo*-class design.

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Additionally, China is designing and building its own diesel-electric submarines, the *Yuan* (Type 039A/B) and *Song* (Type 039/039G), with some 20 already in service. These vessels are likely to be supplemented by additional modified *Yuan*-class boats that are equipped with air-independent propulsion (AIP) systems, which combine the benefits of near noiseless battery operations and not having to surface (which diesel-electric boats have to do in order to recharge their batteries), thereby reducing their periods of vulnerability. Chinese submarines are believed to be capable of firing both torpedoes and anti-ship cruise missiles.

The PLAN also has over 70 destroyers and frigates. Until recently, Chinese combatants were built in small numbers, often only two or four to a class; this was most likely because Chinese admirals and shipwrights were testing various features and combinations of systems. More recently, however, the Chinese appear to have settled on several designs and put them into serial production. These include the *Luyang II* (Type 052C) and *Luyang III* (Type 052D) destroyers and the *Jiangwei* (Type 053H3)

12. *Ibid.*, pp. 320–321.

13. *Ibid.*, pp. 323–330.

14. Information in this section is drawn from International Institute for Strategic Studies, *The Military Balance 2012* (London, U.K.: IISS, 2012), pp. 233–242, and Office of Naval Intelligence, *The People’s Liberation Army Navy: A Modern Navy with Chinese Characteristics* (Washington, D.C.: U.S. Government Printing Office, 2009).

and *Jiangkai* (Type 054A) frigates. Approximately 10 of each of these designs appear to be in service or under construction. The overall size of the PLA Navy is unlikely to grow, as newly commissioned ships will replace rather than supplement older vessels; the resulting navy will, however, be substantially more capable.

In particular, the new Chinese combatants will have improved air defenses. These improvements include the Chinese-manufactured HQ-9 SAM system, whose land-based version is believed to be roughly comparable to the Patriot air defense system, as well as the shorter-range HQ-16. Furthermore, these new ships are also equipped with anti-ship cruise missiles, and many also carry helicopters, which potentially provide an over-the-horizon targeting ability, allowing the full exploitation of the missiles' long range. The helicopters also provide a significant improvement in anti-submarine warfare capability, allowing more extensive searches.

The political context requires an effective defense of the island and the surrounding waters: Taiwan will obtain American (and other international) support only if it demonstrates a capacity to defend itself.

By streamlining the force on a small number of common designs, the PLAN will also face a reduced logistical burden. A common pool of spare parts and training can support the fleet's operations, and standardization will also allow easier transfers and reinforcement of forces by facilitating the shifting of forces among the North, East, and South Sea fleets.

In addition to major combatants, the PLAN fields over 100 missile-armed fast attack craft, patrol craft, and a growing number of corvettes. While these have limited capability to project power, they could supplement the larger vessels' role in maintaining a blockade by patrolling key sea-lanes, inspecting and escorting merchant ships, and being part of fleet actions. Their relatively small size, moreover, allows these ships to be based in smaller ports, away from main naval bases and anchorages.

Supporting the PLAN is the PLANAF, with over 300 combat aircraft. These aircraft include twin-

engine H-6 bombers (a license-built version of the old Russian Tu-16 Badger), as well as the more modern, indigenously designed J-10, J-11, and Su-30 fighter-bombers and the JH-7 strike aircraft. The PLANAF is also believed to field its own electronic warfare and airborne early warning aircraft, based on the Y-8 fuselage. The PLANAF has been oriented more toward maritime strike missions; in the event of conflict with Taiwan, it would be supported by some of the PLAAF's 1,700 combat and support aircraft, which have tended to focus more on air combat and land attack missions.

Finally, should the Chinese leadership decide to mount an invasion of Taiwan, the initial assault echelons would depend on the PLAN's amphibious assets. At this time, China has only a limited amphibious warfare capability, with one large landing ship dock, about 100 medium landing ships, and a small number of air cushion vehicles. While China can also call upon one of the world's largest merchant fleets and thousands of fishing vessels, the history of amphibious warfare suggests that such vessels are more useful in reinforcing forces that have already established a beachhead ashore. Thus, at least in the short term, China's ability to launch an amphibious assault against Taiwan remains limited.

The Maritime Defense of Taiwan

American intervention is essential to the successful defense of Taiwan. Taiwan's naval forces are outnumbered by the PLA, a situation that is exacerbated by the growing ability of the Chinese military to engage in trans-military region operations. Consequently, Taiwan is confronted not only by the forces across the strait in the Nanjing Military Region (MR), but also by the full weight of the PLA as forces located outside the Nanjing MR can be brought in as reinforcements and replacements. The sheer size and capability of the PLA (including its nuclear forces) can be counterbalanced only with American intervention.

Taiwan, however, must be able to hold out for some time in order to ensure that the United States can intervene. Simply to concentrate American forces would take a minimum of several days. This becomes more pressing and more extended as China's anti-access/area-denial capabilities improve; the United States is likely to have to concentrate its forces in order to roll back China's defenses, which may extend to weeks.

Moreover, the political context requires an effective defense of the island and the surrounding waters: Taiwan will obtain American (and other international) support only if it demonstrates a capacity to defend itself. Consequently, the ability to control the air and waters around Taiwan, or at least to prevent the PLA from dominating them, is necessarily an integral part of Taiwan's defense planning. As Taiwan's own assessments have noted, it is essential to control territorial waters and maintain control of disputed islands and waters, as well as to defend against enemy invasion.¹⁵

To counter China's modernizing military, Taiwan fields a military of some 275,000 personnel. The Taiwan military has long depended on qualitative superiority to balance long-standing PLA numerical advantages. This superiority is one reason the United States has had to maintain arms sales to Taiwan: to ensure that Taiwan's military equipment remains at least as capable as that of the PLA.

Modern warfare, however, increasingly relies not only on advanced weapons, but also on advanced electronic systems and sensors operating under a suitable doctrine and well-trained forces to implement that doctrine. According to Taiwan's 2013 Quadrennial Defense Review, Taipei's military strategy is embodied in the concept of "resolute, credible defense" in support of what is sometimes termed a "Hard ROC" approach. This strategy embodies five elements:¹⁶

1. Defend territory. While the Taiwan military expects the PRC's initial blow to inflict considerable damage, Taipei's strategy is to mount a resilient defense, thereby holding off the PRC until American support arrives. To this end, the Taiwan military will seek to wage a protracted defense while resolving (and presumably winning) individual battles. The goal is to buy time for external support while also demonstrating both military and political resolve.

2. Dissuade the enemy from invading. The Taiwan military will maintain a force capable of inflicting sufficient casualties on an opponent

so as to deter them from any attempt at invasion. Such a capacity will require enhancing joint operational capability and fielding well-trained and well-equipped forces.

3. Maintain air and sea lines of communications. Given Taiwan's dependence on imports, preservation of the ALOCs and SLOCs is considered "critical to national survival."¹⁷ The Taiwan military must therefore be able to counter any attempt at isolating Taiwan.

4. Delay any enemy approach to the island. Should deterrence fail, the Taiwan military will strive to defeat the enemy in transit through a combination of multilayered interdiction with air and naval forces. The goal is to trade space to buy time by imposing attrition upon any invading force.

5. Deny the enemy lodgments ashore. Interdiction will likely be insufficient to defeat an enemy invasion. Therefore, the ground forces, supported by air and naval forces, will engage in a defense-in-depth while also attacking any beachhead. The expectation is that counterattacks will weaken the enemy, preventing them from exploiting any landing, while a defense-in-depth is established that will confine the enemy and prevent a breakout.

Ideally, through a combination of active and passive defenses (including hardening of facilities and communications links), joint operations to leverage the strengths of Taiwan's armed forces, and a modern C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) system to deploy those forces efficiently, Taiwan will present a "Hard ROC" to any aggressor. These objectives, in turn, impose certain requirements on Taiwan's armed forces:¹⁸

1. Improved force planning. One key objective is preventing the enemy from successfully surprising Taiwan's military, including measures

15. Taiwan Ministry of National Defense, *Quadrennial Defense Review 2013* (Taipei: MND, 2013), p. 46.

16. *Ibid.*, pp. 38–40.

17. *Ibid.*, p. 39.

18. *Ibid.*, pp. 40–41.

to prevent decapitation or paralysis of the command structure. An essential element of this is to create “innovative and symmetric” capabilities that exploit PLA weaknesses while minimizing Taiwan’s own. Another aspect of this will be to better organize the reserve forces, supplementing the active duty component and creating the necessary additional forces to sustain an extended defense.

- 2. Improved joint operations.** Each service needs to reconcile its force structure, command and control capabilities, doctrine, and training with that of the others to multiply warfighting capabilities.
- 3. Improved integration of weapons systems to reduce the decision cycle.** Since Taiwan will be fighting outnumbered, it needs to have a minimal decision cycle to retain the initiative and prevent the PLA from determining the pace of battle. Consequently, a major part of Taiwan’s defense efforts has focused on maintaining a robust command and control (C2) network, facilitating the sharing of information, and allowing the integration of forces and weapons. This should allow the concentration of Taiwan’s forces at the key point.¹⁹ Not surprisingly, given its importance, the island’s command and control architecture also appears to be a primary focus of Chinese espionage.²⁰
- 4. Improved force protection.** In order to prevent the enemy from overwhelming Taiwan and to support sustained defensive operations, Taiwan strives to harden key facilities and infrastructure and to maintain redundant capabilities.
- 5. Increased reliance on maneuver.** In light of the numerical advantages likely to accrue to the PLA,

it will be essential that Taiwan’s armed forces be able to respond rapidly to developments, concentrating their more limited assets at key points and thereby creating local superiority.

The Republic of China Navy

The Republic of China Navy (ROCN) plays a critical part in Taiwan’s ability to defend itself. To that end, Taiwan is developing naval capabilities that support “high quality and efficient, rapid deployment, and long-range strike” operations. The stated priorities for Taiwan maritime defense capabilities are to (1) acquire submarines and additional advanced surface combatants; (2) improve anti-submarine warfare and mine countermeasures capabilities; and (3) strengthen maritime and airborne interdiction capabilities including the development of standoff precision-guided munitions.

The ROCN currently fields a force of approximately 41,000 personnel that includes:

- Two former U.S. and two former Dutch diesel-electric submarines (only the latter two are fully operational);
- Four former U.S. *Kidd*-class guided-missile destroyers;
- Eight former U.S. *Knox*-class frigates;
- Eight former U.S. *Oliver Hazard Perry*-class guided-missile frigates; and
- Six French-supplied *Lafayette*-class frigates.

It is estimated that Taiwan has almost 100 missile-armed fast attack craft of various types, ranging in size from about 45 tons to nearly 600 tons. Taiwan has also been operating a number of indigenously developed stealthy corvettes.²¹ Most of these

19. Mark A. Stokes, *Revolutionizing Taiwan’s Security: Leveraging C4ISR for Traditional and Non-Traditional Challenges* (Washington, D.C.: Project 2049, 2010).

20. J. Michael Cole, “Taiwan’s China Spy Problem,” *The Diplomat*, October 29, 2012, <http://thediplomat.com/china-power/taiwans-china-spy-problem/> (accessed January 23, 2014).

21. “Taiwan Tests New Anti-Ship Missile,” *Taipei Times*, November 12, 2012, http://www.spacewar.com/reports/Taiwan_tests_new_anti-ship_missile_report_999.html (accessed January 23, 2014); “Taiwan Inaugurates ‘Stealth’ Missile Boat Squadron,” *Defense News*, May 18, 2010, <http://www.defensenews.com/article/20100518/DEFSECT03/5180311/Taiwan-Inaugurates-Stealth-Missile-Boat-Squadron> (accessed January 23, 2014).

platforms are equipped with locally developed Hsiung Feng-II, Hsiung Feng III, and extended range Hsiung Feng III anti-ship missiles. These are supersonic cruise missiles available with anti-ship or anti-radiation warheads. The ROCN also operates five squadrons of anti-submarine warfare aircraft, both fixed-wing and rotary-wing. In the event of an invasion attempt, the ground forces' attack helicopters would likely also be called upon to provide additional anti-ship capability.

Additionally, the ROCN has 15 larger amphibious ships and nearly 300 landing craft to support its 11,000-man marine force (organized into two combat brigades and one supporting brigade) and, in event of a crisis, to provide resupply capability for the Penghu islands and Quemoy and Matsu. Finally, Taiwan's navy also possesses a dozen logistics and support vessels, allowing Taiwan combatants to operate for some time away from their main base.

The Cross-Strait Maritime Situation

Despite the warming of cross-Strait relations, the PLA continues to make considerable preparation for the possibility of military action against Taiwan. Recent Chinese news coverage of the "Mission Action 2013-B" exercises, for example, included maps of Taiwan.²² In light of PLA doctrine and likely operations, as well as Taiwan's own assessment of its capabilities and likely missions, the ability of Taiwan to deny the PLA control of the Taiwan Strait is of obvious importance.

If it is to threaten to invade Taiwan successfully, the PLA needs to be able to secure the airspace over the Strait and also to clear the waterway of any significant island naval forces, including mine-laying assets. Destroying the island's navy would not only remove a major obstacle to PLA amphibious forces, but also mean that the Chinese could seize the outlying Penghu islands, which could serve Taiwan as a base for fast attack craft and helicopters to harass any cross-Strait invasion force. Even more important, such a seizure would demoralize the island's

defenders, as it would mean that there could be no buffer extending into the strait.

In this regard, submarines would play a major role in keeping the PLA at bay, and when considering such a scenario, the experience of the British task force in the 1982 Falklands War is instructive. Faced with only two diesel-electric submarines, the Royal Navy, the premier anti-submarine force in NATO at the time, committed substantial resources to counter them. Yet one of the Argentine submarines (a Type 209-class boat less than a decade old) operated for over a month, successfully attacking British forces at least twice (although failing to sink anything due to defective torpedoes). The British task force, meanwhile, "expended more than 150 depth charges and torpedoes against false contacts" and scored no hits on the submarine itself.²³ Despite advances in computer processing, anti-submarine warfare remains a time- and resource-intensive activity that currently has no shortcuts.

For Taiwan, its navy in many ways fulfills the concept of the "fleet in being": It is a force that is insufficient to win command of the seas by offensive operations but may nonetheless prevent an opponent from gaining control of those same seas so long as it remains capable of some offensive actions.²⁴ So long as major portions of Taiwan's navy are battle-worthy and capable of sortieing, the PLA Navy, in order to counter such a force, will have to maintain substantial assets in and around the island. Such forces will complicate any invasion attempt, as well as make a blockade harder to enforce, and may even be able to establish local superiority, thereby inflicting casualties on portions of the PLAN.

This plan implies, however, that Taiwan should not be seeking a decisive "fleet action" (i.e., an all-out clash between its naval forces and those of the mainland). Not only would Taiwan be outnumbered, but such a battle would jeopardize its ability to maintain the "fleet in being."

At the same time, Taiwan also must recognize that the cross-Strait area is only a small portion of

22. Jeremy Blum, "PLA Military Drill Broadcast 'Intentionally' Shows Map of Taiwan, Say Taiwanese Media," *South China Morning Post*, October 15, 2013, <http://www.scmp.com/news/china-insider/article/1332282/pla-military-drill-broadcast-intentionally-shows-map-taiwan-say> (accessed January 23, 2014).

23. John Benedict, "The Unraveling and Revitalization of U.S. Navy Anti-Submarine Warfare," *Naval War College Review*, Vol. LVIII, No. 2 (Spring 2005), p. 100.

24. Julian S. Corbett, *Some Principles of Maritime Strategy* (Annapolis, Md.: Naval Institute Press, 1988), pp. 209-232.

the larger maritime situation, itself part of what will likely be an integrated battle-space spanning land, sea, air, outer space, and the electromagnetic spectrum. Consequently, both sides will have to pay attention to maritime developments beyond the confines of the two sides of the Taiwan Strait, as their respective sea-lanes of communications are likely to assume growing importance in any extended conflict. This reality immediately puts Taiwan's navy at a significant disadvantage, since it has fewer resources and less reach than the PLAN.

Instead, both sides will have to retain forces to protect and maintain their respective sea-lanes of communications (which, ironically, are almost identical). For the ROCN, however, this is both an opportunity and an enormous challenge, and for the same reason—the length of those SLOCs. On the one hand, the extended Chinese SLOCs represent a potential range of vulnerability and leverage if the ROCN were able to apply constant pressure against them. At the same time, however, Taiwan's own extensive SLOCs are almost certain to be attacked, and the extensive Chinese discussion of mounting joint blockade operations clearly indicates that the Chinese military recognizes this vulnerability.

Given the balance of forces, the ROCN will be unable to blockade China, although such a gambit would adversely affect Chinese maritime trade, as many ports are within range of Taiwan's armed forces. However, any offshore blockade, such as might be conducted by the United States, would benefit Taiwan as well.

A Chinese blockade of Taiwan, on the other hand, would be an extended action, the effects of which would not immediately be identifiable even if it were accompanied by attacks on the island itself. Taiwan can survive a blockade or at least delay its impact, especially if it creates needed stockpiles of energy, food, and critical materials in advance. That time, in turn, could be used to damage PLA forces and politically to rally support around the world, potentially gaining friends and allies who would help to reduce the effectiveness of any Chinese blockade efforts.

By the same token, other asymmetric measures might also be applied to help even the maritime

balance. A part of the “Hard ROC” approach is the acquisition of large numbers of anti-ship missiles, deployed on both land and sea. It has now been revealed that Taiwan has been building road-mobile anti-ship missile batteries.²⁵ A substantial force of such missiles would make it more difficult for the PLA to launch an amphibious assault and would compel blockading forces to maintain a healthy distance from the island itself (and any outlying bases), making any blockade more porous and therefore less effective. Maximizing the impact of these missiles, however, requires maintaining maritime situational awareness so that intruding forces are detected promptly.

Taiwan has been building road-mobile anti-ship missile batteries. A substantial force of such missiles would make it more difficult for the PLA to launch an amphibious assault.

Another component of the Hard ROC strategy would be the substantial deployment of mine barriers. Such a tactic would further complicate Chinese naval actions in the waters around the island. Any invasion, for example, would require that the PLA first sweep for minefields, an action that would warn Taipei of an impending attack.²⁶ Additionally, the mine countermeasure forces would themselves be vulnerable to both air and sea attack. Development and practice of rapid mine deployment by Taiwan, including aerial, small boat, and submarine systems, would further complicate Chinese military planning, since cleared areas might be surreptitiously reseeded.

What Should Be Done

Any successful defense of Taiwan, whether from blockade or invasion, will rely heavily on the ROCN. Consequently, the ROCN must be capable of surviving an attack—regardless of the PLA's numerical superiority. A technologically obsolescent navy cannot hope to meet such a challenge, especially as

25. Wendell Minnick, “Taiwan Displays New Missile Launch Vehicle,” *Defense News*, August 14, 2013, <http://www.defensenews.com/article/20130814/DEFREG03/308140013/Taiwan-Displays-New-Missile-Launch-Vehicle> (accessed January 23, 2014).
26. Zhang Yuliang, *The Science of Campaigns*, pp. 322–323.

the PLA continues to modernize at a rapid pace. It is therefore necessary that Taiwan obtain up-to-date systems and engage in modern training, which will require the help of the United States.

To this end, the United States should:

- **Support the modernization of the ROC Navy.** The United States has already sold Taiwan *Perry*- and *Knox*-class frigates, as well as anti-submarine warfare aircraft. These systems are essential for Taiwan to remain competitive with the PLA at sea. As the United States retires other modern combatants, such as *Spruance*-class destroyers or early versions of the AEGIS cruiser (e.g., USS *Ticonderoga* and USS *Yorktown*), it should consider selling these ships to Taiwan. The sale of AEGIS ships, in particular, should be taken into consideration, as they would provide a further improvement in Taiwan's seagoing air defense capabilities.

Another important aspect of this would be modernizing Taiwan's submarine force. Suppressing an opponent's submarine forces is a key task for the PLA. The experience from the Falklands War likely remains a signal lesson for the PLA, but Taiwan's submarine force at this point is far less capable than Argentina's was at the time. Two of Taiwan's submarines are World War II-era *Tench*-class boats, which Argentina considered obsolete three decades ago. The other two are 1980s-era *Zwaardvis*-class boats in service for over a quarter of a century.

Chinese pressure has ensured that Taiwan cannot simply acquire foreign boats. Consequently, during the George W. Bush Administration, the U.S. and Taiwan agreed on a two-phase plan to assist Taiwan's acquisition of submarines. The first element would be Taiwan's procurement of a sub design; the second would be construction and support. However, Taiwanese and American politics have stalled the process; there has been little progress made toward even beginning the project's design phase, despite Taiwan's submission of a letter of request in this regard in January

2008 and President Ma's reiteration of the need for new boats in 2013.²⁷

The U.S. State Department and Defense Department should complete their review of Taiwan's request for a submarine design phase and allow the program to proceed. Alternatively, American contractors should be allowed to explore direct commercial sales of submarines to Taiwan.

- **Support the sale of advanced aircraft and air defenses to Taiwan.** Sea control and air superiority are inextricably linked. Should the ROC Air Force prove unable to control the skies over Taiwan, the ROCN would be hard-pressed to maintain control of the seas, and the ability to preserve a "fleet in being" would be highly questionable. Consequently, the United States needs to ensure that Taiwan's air force can field modern forces that are able to counter the PLA's burgeoning capabilities.

But preserving air superiority is not only a matter of advanced fighters; it also requires provision of the requisite C4ISR capabilities and air defense systems so that the aircraft can be efficiently employed and inevitable "leakers" are nonetheless engaged. The upgrading of Taiwan's F-16A/B fleet is a small step in that direction but ultimately insufficient, given the age of the airframes and the extended period that this upgrading will take (nearly a decade). The United States should be prepared to sell additional fighters, as well as additional Patriot batteries and airborne early warning aircraft, to ensure that Taiwan can control its airspace.

- **Expose the ROC military to a broader array of contacts.** Isolation is one of the greatest problems confronting Taiwan's military. Due to Chinese pressure, the ROC military has only limited interaction with foreign militaries; consequently, it not only lacks combat experience, but also has not enjoyed the cross-fertilization opportunities typical of other American allies. At a minimum, the

27. Shirley Kan, *Taiwan: Major U.S. Arms Sales Since 1990*, Congressional Research Service Report for Congress, updated November 27, 2013, pp. 12-15, <http://www.fas.org/sgp/crs/weapons/RL30957.pdf> (accessed January 23, 2014); "Taiwan President Presses for US Subs Deal," *Defense News*, January 28, 2013, <http://www.defensenews.com/article/20130128/DEFREG03/301280007/> (accessed January 23, 2014).

United States should consider expanding its own interactions with the Taiwan military. Whether it is bilateral naval exercises in the western Pacific or the U.S. Air Force's "Red Flag" training at Nellis Air Force Base, U.S. military forces should have more interaction with their Taiwan counterparts if only to improve mutual familiarization.²⁸

As important, the United States should serve as a bridge for the Taiwan military to interact with foreign military forces. In particular, certain multilateral exercises, such as RIMPAC (Rim of the Pacific), where the U.S. is now inviting Chinese participation, would be of particular benefit to the Taiwan military. It is difficult to imagine any information or technology that could be exposed to the PLA but not to Taiwan. There should be no reason for Washington to extend

an invitation to Beijing to participate in RIMPAC but not to Taipei.

Conclusion

The United States remains committed to the security of Taiwan, both in support of a long-standing democratic friend and because such a commitment is consistent with American interests. That pledge, however, cannot be simply rhetorical; it must also reflect the concrete realities of the cross-strait military balance. For these reasons, the United States should support Taiwan's military modernization, both by providing access to modern systems and by facilitating the island nation's interaction with other, friendly militaries.

—*Dean Cheng is Research Fellow for Chinese Political and Security Affairs in the Asian Studies Center at The Heritage Foundation.*

28. ROC Air Force units had been invited to participate in a Red Flag exercise in December 2012, but the invitation was rescinded by the White House. J. Michael Cole, "F-16 Pilots Came Close to Joining US Exercise," *Taipei Times*, December 10, 2012, <http://www.taipetimes.com/News/taiwan/archives/2012/12/10/2003549801> (accessed January 23, 2014).