

ISSUE BRIEF

No. 4328 | JANUARY 12, 2015

Why Taiwan Needs Submarines

Dean Cheng

In 2001, President George W. Bush's Administration agreed to a major arms sale to Taiwan. Approved for sale to Taipei were anti-submarine warfare aircraft, anti-ship missiles, self-propelled howitzers, minesweepers, and destroyers. The United States also agreed to help Taiwan obtain new diesel-electric submarines, to modernize the island's underwater forces. At the time, the Republic of China Navy (ROCN) had two ex-Dutch Zwaardvis-class boats, built in the 1980s, and two ex-U.S. Navy Guppy-class boats built at the end of World War II.

Thirteen years later, Taiwan's submarine arm still consists of two ex-Dutch submarines and two boats most of whose peers are now museum exhibits. Years of on-again, off-again discussions have not resulted in an actual sale from the United States or any other nation. More seriously, there has also been no movement in facilitating American shipwrights' and experts' engagement with their Taiwanese counterparts to allow Taiwan to build its own boats.

Taiwan's Maritime Security Situation

An island nation, Taiwan is one of the most densely populated territories on earth, with over 630 per-

sons per square kilometer. The 23 million people on the island are almost wholly dependent on imports for both food and energy.

Equally important, Taiwan's security depends on the ability to challenge the ability of the Chinese People's Liberation Army (PLA) to cross the islands and mount an invasion, or impose a blockade that would leave the residents starving and in the dark. The PLA's main planning guidelines appear to focus, still, on taking Taiwan. The PLA's best forces, and much of its strategic and operational thinking, appear to be oriented toward either taking Taiwan or countering any American attempt to prevent such Chinese actions.

Because of the disparity in physical size, economy, and geography, Taiwan's maritime security in the face of the Chinese threat is a challenging problem. China has the wherewithal to simultaneously bombard Taiwan (especially with its large arsenal of short-range and medium-range ballistic missiles), while also being able to deploy forces farther afield of Taiwan's immediate environment. For Taipei, the key to a successful defense of the island is to hold out long enough for the United States to intervene decisively. Taiwan's military must therefore be able to simultaneously defend the island, while also nonetheless being able to deny the Chinese regime the ability to easily or rapidly isolate the island.

Submarines have long played a role in Taiwan's defense calculations. Given the relative weakness of China's anti-submarine warfare capabilities, submarines would pose a significant threat to any amphibious force. Indeed, the record of the British Royal Navy during the Falklands would suggest a disproportionate effect from even a handful of mod-

This paper, in its entirety, can be found at <http://report.heritage.org/ib4328>

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

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

ern submarines. On the one hand, the sinking of the Argentine cruiser *General Belgrano* led the Argentines to withdraw all naval forces from the British-declared exclusion zone.

At the same time, however, even though the Royal Navy was considered the premier anti-submarine force in NATO, it failed to find the Argentine sub *ARA San Luis*.¹ That boat managed to remain at sea for over a month, and despite the best efforts of NATO's premier anti-submarine force, was apparently able to operate relatively unhindered. The Royal Navy expended substantial amounts of ordnance against a variety of false contacts, depleting its stocks for no real effect.² Indeed, but for problems with its fire control system, that Argentine sub might well have changed the course of the battle, as it repeatedly achieved firing solutions on elements of the British task force.³

In light of the importance of submarines, and given Taiwan's aging fleet, the U.S. in April 2001 committed to helping Taiwan acquire up to eight diesel-electric submarines. This commitment was complicated by the reality that the United States has not built diesel-electric submarines since the 1950s, as the U.S. Navy transitioned to an all-nuclear power submarine force. As the U.S. has no intention of transferring nuclear-powered subs to Taiwan, the United States was, in effect, promising to help Taiwan acquire such systems from third parties.

But the European shipbuilders who were expected to provide the designs and the hulls were subjected to intense pressure from Beijing not to supply Taiwan with such systems. At the same time, major political clashes between the Democratic Progress Party's President Chen Shui-bian and the Kuomintang-controlled legislature raised issues about funding and Taiwan's commitment to acquiring the submarines. Consequently, the United States has had to rethink its approach.

In 2006, Richard Lawless, then the Deputy Undersecretary of Defense for Asian & Pacific Security Affairs, indicated that the United States was open to a two-phase approach to explore the possibility of indigenous production of diesel-electric submarines by Taiwan. The first phase would involve determining a design for these boats, while the second would involve actual construction and subsequent operations and maintenance. A formal congressional notification for the first phase was prepared in early 2008, but it has remained in the State Department with no movement in the subsequent six years.

Increasingly frustrated by the lack of American action, and with no prospect of sales by any European manufacturers, Taiwan began its own two-pronged approach: In 2011, Taiwan's President Ma Ying-jeou formally requested that the Obama Administration approve the first phase for submarine production, which would allow American corporations to enter into discussions with their Taiwanese counterparts over design and source selection. When the submarine program was nonetheless not included in the September 2011 arms sales notification to Congress, Taiwan began to explore the possibility of completely indigenous design and manufacturing.

Bringing together elements from Taiwan's military, major shipbuilders, and key design centers, a Taiwanese task force produced a submarine program feasibility study.⁴ This led to a plan, forwarded to the Taiwan legislature in October 2014, whereby Taiwan's own Ship and Ocean Industries Research and Development Center would design the vessels, China Shipbuilding Corporation would manufacture the boats, and the Chungshan Institute of Science and Technology would provide the key weapons and sensors.

Unfortunately, such a program would cost some \$4.9 billion for the first four vessels. This would consume a significant portion of Taiwan's overall defense budget.⁵ Nor would this address the real-

-
1. The *ARA Santa Fe* was caught on the surface on the first day, damaged, and forced to beach itself on South Georgia Island.
 2. John Benedict, "The Unraveling and Revitalization of U.S. Navy Anti-Submarine Warfare," *Naval War College Review*, Vol. 18, No. 2 (Spring 2005), p. 100.
 3. LCDR Steven Harper, *Submarine Operations During the Falklands War* (Newport, RI: U.S. Naval War College, 1994), pp. 10-11.
 4. Wendell Minnick, "Taiwan Previews Major Naval Acquisition Plan," *Defense News*, September 20, 2014, <http://www.defensenews.com/article/20140920/DEFREG03/309200024/Taiwan-Previews-Major-Naval-Acquisition-Plan> (accessed January 7, 2015), and Jason Pan, "Military Unveils Plan to Construct New Submarines," *Taipei Times*, October 1, 2014, <http://www.taipeitimes.com/News/taiwan/archives/2014/10/01/2003601004> (accessed January 7, 2015).
 5. Evan Braden Montgomery, "Rethinking Taiwan's Submarine Dream," *Real Clear Defense*, October 28, 2014, http://www.realcleardefense.com/articles/2014/10/28/time_for_taiwan_to_rethink_its_submarine_dream_107516.html (accessed January 7, 2015).

ity that Taiwan's shipbuilders have no experience building a submarine, which entails working with specialized steel and integrating a variety of sensors and weapons in ways very different from surface combatants. Yet, given the lack of progress on the American side in fulfilling its prior commitment, and the unwillingness of European nations to risk antagonizing Beijing, it is understandable why Taiwan would choose this option since it has no other real choices.

U.S. Policy

It is in U.S. security interests to ensure that Taiwan maintains a sufficiently robust defense that it can deter Chinese aggression, especially as China has become increasingly assertive throughout the East Asian littoral in recent years. The relatively quiet state of the Taiwan Straits may well change after the 2016 Taiwan presidential elections, particularly given likely Chinese reaction to a Democratic Progressive Party victory. Recent Chinese actions toward Hong Kong have probably torpedoed any prospect of the "one country, two systems" approach that Beijing has long proffered to Taiwan. The United States should:

- **Allow the "Conception Definition and Design Source Selection" phase to proceed promptly.** Congress should direct the Department of State to either allow this to move forward, or provide a formal explanation on why it is failing to do so.

- **Allow American shipbuilders and weapons manufacturers to cooperate with Taiwanese corporations in assessing Taiwan's capabilities and forward bids on relevant sensors and weapons systems.** At the same time, the U.S. should also allow the sale of additional submarine weapons (e.g., submarine-launched Harpoon missiles) that are already in the Taiwanese inventory.

- **Continue to encourage other manufacturers of conventional (diesel-electric) submarines to cooperate with Taiwan.** The prospect of Japan engaging in arms sales, and specifically the export of submarines to Australia, raises the possibility of additional, non-traditional suppliers who might be additional sources of either submarine technology, or even completed boats.

Taiwan's defense would be strengthened with more modern submarines. The U.S., as Taiwan's best, and often only, friend, should help Taipei acquire an underwater force, which would benefit not only Taiwan, but America's defense posture in the western Pacific. To this end, the United States should provide options that enable Taiwan to meet its requirements in the most cost-effective way possible. Because leaving Taiwan with a single—extremely costly—option for fulfilling its defense needs puts Taiwan's democracy and defense in a very precarious position.

—*Dean Cheng is Senior Research Fellow in the Asian Studies Center, of the Kathryn and Shelby Cullom Davis Institute for National Security and Foreign Policy, at The Heritage Foundation.*