

## About the Author

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## Key Points

- ◆ Taiwan has begun to embrace a new asymmetric defense approach focused on fighting in the littoral with smaller, more survivable systems. This is key to defeating a Chinese invasion.
- ◆ Support from President Tsai Ing-wen has been high but there is resistance from some senior members of Taiwan's defense establishment who favor more expensive conventional systems.
- ◆ Personnel recruitment and logistics are two key elements that the Overall Defense Concept and Taiwan's defense strategy need to address.
- ◆ The United States should not only provide critical defense items to Taiwan but also help Taipei refine its new defense strategy and improve interoperability between U.S. and Taiwan armed forces.

## Winning the Fight Taiwan Cannot Afford to Lose

by Drew Thompson

Taiwan's defense approach has long relied on purchases of U.S. equipment and attempts to emulate U.S. doctrine. The U.S. military, however, has focused on projecting power to fight smaller adversaries around the world, while Taiwan faces the prospect of defending its homeland from China's increasingly capable People's Liberation Army (PLA). The United States is deeply committed to defending Taiwan, particularly as it becomes increasingly clear that Taiwan's military needs to adapt to the rising threat posed by the PLA and the risk that Xi Jinping might seek to use force to compel unification. China has long had the ability to blockade or to launch missiles or air strikes against Taiwan, but a defiant Taipei could resist such coercion and refuse to surrender. Beijing can only be certain that it can compel unification if it can mount an invasion. Deterring invasion is, therefore, the ultimate objective for the United States and Taiwan. Maintaining cross-strait stability in the face of an increasingly well-resourced and modernizing PLA requires continual innovation and adaptation, including the updating of defense concepts.

While casual observers of the U.S.-Taiwan defense relationship focus on highly visible arms sales announcements, the extent of deep, substantive engagement between the two militaries is arguably even more valuable to ensuring cross-strait deterrence. Military-to-military exchanges take place from the highest political-security levels to operational exchanges, to the level of units and individual soldiers, and all the way to down to the midshipmen and cadets from Taiwan studying at each of the U.S. Service academies. In each of these engagements, ideas are exchanged, trust is developed, and friendships are forged by the common bond of two democracies seeking to deter aggression and preserve peace and stability in the Western Pacific.

Beginning in 2007, U.S. experts from the Department of Defense began collaborating with senior Taiwan military officials to jointly analyze the progress

and implications of Chinese military modernization. Senior and mid-level civilian officials and military officers, experienced veterans, and defense planners all worked together to assess how Taiwan could transform its military to adapt to growing PLA power-projection capabilities.<sup>1</sup> A generation of Taiwan defense policymakers and planners spent years, both independently and collaboratively with U.S. colleagues, studying cases, challenging assumptions, and developing, simulating, modeling, and testing concepts. Everyone involved recognized the significance of this intellectual endeavor in deterring Beijing from using force to unify Taiwan and, if that failed, preventing a PLA invasion from succeeding. They called a PLA invasion “the fight Taiwan cannot afford to lose.” Failure to deter China or stop an invasion would imperil Taiwan’s survival and raise the specter of nuclear war between the U.S. and China. Taiwan’s defense planners ultimately determined that avoiding this outcome depended on Taiwan transforming its military to address the growing PLA threat by adopting an asymmetric strategy.

## Origins of the Overall Defense Concept

In 2017, Taiwan’s then Chief of the General Staff, Admiral Lee Hsi-min, quietly proposed a revolutionary new approach to Taiwan’s defense called the Overall Defense Concept (ODC).<sup>2</sup> The ODC is at its core an asymmetric strategy that, if effectively implemented, could increase the chance of preventing China from being able to take Taiwan by force.

Mainland China considers Taiwan a rogue province—an unresolved remnant of the Chinese Civil War that otherwise ended in 1949 when Chiang Kai-shek’s defeated forces retreated to Taiwan under the protection of the U.S. Navy. Afterward, the U.S. military maintained a presence in Taiwan until the normalization of U.S. diplomatic relations with China in 1979. China has stated its intent to reunify Taiwan by force, if necessary, with Xi Jinping threatening in 2013 that the Taiwan issue “should not be passed down generation after generation.”<sup>3</sup> To that end, China has built its military to be able to invade

Taiwan and prevent the U.S. military from coming to the island’s defense in time, a strategy the U.S. Defense Department labeled *antiaccess/area denial* (A2/AD).

Taiwan has historically depended on the United States to help deter China through both the threat of U.S. intervention and the provision of arms. The Taiwan Relations Act requires the United States to maintain the ability to defend Taiwan and to provide it with “arms of a defensive character.”<sup>4</sup> Taiwan’s military has closely mirrored its U.S. counterpart in miniature for years, sending its officers to U.S. military schools, training together, acquiring new and used military platforms sold by the U.S. Government, and basing Taiwan’s own doctrine on concepts that originated in the United States. Taiwan’s military capabilities are a hodgepodge of U.S. and indigenously built systems. Its U.S.-sourced systems range from antique to cutting edge. Taiwan’s arsenal includes Vietnam-era U.S. systems, such as M-60 tanks, *Knox*-class frigates, and F-5 fighters, though many are slated for replacement under a much-needed recapitalization program. At the higher end, Taiwan’s AH-64E Apache attack helicopter is newer than the model fielded by the U.S. Army in the U.S. Indo-Pacific Command’s area of responsibility. Taiwan’s F-16s are being retrofitted to include new capabilities that make U.S. Air Force pilots jealous.

The problem with copying the American approach to warfare is that the U.S. military’s doctrine is to project power over great distances and to maximize mobility and networks to take the fight to the enemy with overwhelming superiority. Taiwan, on the other hand, needs the opposite: short-range and defensive systems that can survive an initial bombardment from a larger adversary and that are suitable for deployment close to home in defense of the island should it come under blockade or attack. Despite emulating the U.S. military in its doctrine, training, and capabilities for decades, Taiwan has begun to chart its own course.

Taiwan’s defense planners have long expressed a willingness to employ innovative and asymmetric strategies, but implementation has been slow and challenging. Taiwan’s Quadrennial Defense Reviews, published in 2009,

2013, 2017, and 2021, endorsed the concept of asymmetric and innovative methods. The 2017 review, for example, reiterated Taiwan's intent to adopt asymmetric and innovative approaches "to present multiple dilemmas to the enemy and deter aggression" before describing its strategy of a war of attrition, where Taiwan would "resist the enemy on the other shore, attack the enemy on the sea, destroy the enemy in the littoral area, and annihilate the enemy on the beachhead."<sup>5</sup> While the rhetoric used by Taiwan's defense planners supported a new approach to defense, Taiwan's services and some politicians continued to favor the acquisition of large, expensive, conventional systems from the United States, along with U.S. doctrine and training to support Taiwan's long-established "defense-in-depth" strategy by fighting the PLA from the mainland, across the Taiwan Strait, to the beaches of Taiwan itself.

## Contours of a New Defense Approach

The ODC describes an asymmetric defense approach where Taiwan maximizes its defense advantages and targets an invading force when it is at its weakest: in Taiwan's littoral. While Taiwan's previous strategy focused on fighting across the entire Taiwan Strait and defeating the enemy through attrition, the new concept divides Taiwan's defense operations into three phases: force preservation, decisive battle in the littoral zone, and destruction of the enemy at the landing beach. Each phase takes place closer to Taiwan's shores where the lines of communication are short and Taiwan's forces can benefit from land-based air denial and more effective surveillance and reconnaissance. As Admiral Lee explains, "The ODC *re-defines winning the war* as foiling the PLA's mission of successfully invading and exerting political control over Taiwan. Taiwan must abandon notions of a traditional war of attrition with the PLA."<sup>6</sup> The following sections describe each of the ODC's phases and then highlight the specific role played by sea mines and antiship missiles.

**Force Preservation.** Force preservation is the first phase of the ODC. Defense planners presume that a PLA campaign would begin with a blockade, followed by

missile strikes intended to destroy Taiwan's military and demoralize its public. The ODC calls for large numbers of affordable, small, mobile systems that can sortie out from bases, employ deception, camouflage, and decoys to make targeting difficult and ensure that sufficient capabilities survive initial strikes. The survival and continued effectiveness of Taiwan's military following initial PLA strikes has taken on greater urgency considering China's larger and more accurate ballistic and cruise missile forces, while PLA A2/AD capabilities are anticipated to slow a U.S. military response. Taiwan is already experienced in hardening its military infrastructure to withstand attacks, but the ODC calls for additional investments in key capabilities, including mobility, deception, camouflage, concealment, jamming, redundancy, rapid repair, and reconstitution. While these attributes are often neglected by militaries because they are not visible or prestigious, the new defense concept recognizes that they are critical to Taiwan's credible deterrence and prioritizes them in the competition for scarce defense dollars.

**Decisive Battle in the Littoral.** The second phase is the decisive battle in the littoral, which extends up to 100 kilometers from the island. Key capabilities at this phase include sea mines and large surface vessels equipped with Taiwan's capable, domestically manufactured anti-ship cruise missiles, the Hsiung Feng 2 and 3. Taiwan's surface fleet includes larger vessels from the legacy force, such as French-built *Lafayette*-class frigates, *Kidd*-class destroyers, and U.S.-designed *Perry*-class frigates armed with both Hsiung Feng and Harpoon missiles, and a new class of domestically built, fast attack *Tuojiang*-class catamarans that carry 16 Hsiung Feng missiles. These large surface combatants and the aluminum-hulled *Tuojiang* catamarans will likely suffer severe losses in the opening phases of a cross-strait conflict as they seek to counter Chinese surface vessels in a symmetrical contest that favors the PLA Navy's (PLAN's) larger numbers of ships armed with longer range antiship missiles, which can also be launched by the PLA's land-based fighters.

The heart of Taiwan's asymmetric strategy is the use of mobility, low observability, camouflage, swarm tactics,

and innovative approaches to complicate the PLA's ability to find and destroy Taiwan's platforms, particularly in the opening phases of a conflict. Taiwan currently fields truck-mounted Hsiung Feng antiship missiles, which can disperse to survive initial strikes, then set up later when PLAN ships, particularly the high-value amphibious vessels carrying an invasion force, are crossing the strait. These land-based mobile antiship systems are expected to survive after Taiwan's capital ships have been destroyed and may be able to further extend their survivability by moving after firing to avoid counter-fire strikes. On October 26, 2020, the U.S. Government notified Congress of its intent to sell Taiwan 100 Harpoon Coastal Defense Systems and 400 RGM-84L-4 Harpoon Block II Surface Launched Missiles in a deal valued at \$2.37 billion, giving Taiwan greater depth and capacity to hold a Chinese invasion fleet at risk from the sanctuary of Taiwan's urban and mountainous terrain.<sup>7</sup> Most recently, in August 2021, the Joseph R. Biden administration notified Congress of its intent to sell Taiwan \$750 million worth of new and upgraded M109A6 Paladin self-propelled howitzers, giving the Taiwan army the improved capability to attack enemy forces in the littoral and on the beach.<sup>8</sup> This capability to survive an initial bombardment, then "shoot-and-scoot" from concealment, is the hallmark of an asymmetric strategy and a key component of the ODC.

***Destruction of the Enemy at the Landing Beach.*** The third phase of the ODC seeks to annihilate the enemy at the "beach area," which extends approximately 40 kilometers out from the anticipated invasion beaches.<sup>9</sup> This phase calls for Taiwan's navy to lay mines in both the deep and shallow waters off suspected landing beaches. A new fleet of automated, fast minelaying ships are being built for that mission, with the first vessel of the class launched in August 2020.<sup>10</sup> Mine-launching rails can be installed on several classes of surface vessels and will be incorporated into the design of future corvettes. While invading ships are slowed by mine fields, swarms of small fast attack boats and truck-launched antiship cruise missiles will target key PLA ships, particularly amphibious landing ships carrying

the initial assault wave and roll-on/roll-off vessels carrying follow-on vehicles and armor.<sup>11</sup>

The Taiwan army comes into play during this phase, laying beach mines and targeting PLAN ships, including minesweepers, with precision fires. Joint precision fires artillery will target any vessels and troops reaching shore, using area-effects weapons that have large blast and fragmentation radii to destroy all personnel and lightly armored vehicles or vessels in a target zone. Examples of area-effects weapons include indigenously built multiple launch rocket systems with cluster munitions and the U.S.-built High Mobility Artillery Rocket System (HIMARS), the sale of which was also notified to Congress in October 2020.<sup>12</sup> Attack helicopters, including AH-1W Super Cobras and AH-6E Apaches, are also key army systems that may be used during these operations.

According to the ODC, the Taiwan air force will seek to deny Chinese fighters, bombers, and drones the ability to operate effectively within Taiwan's battlespace by deploying integrated air defenses, including Patriot PAC-3 batteries and domestically manufactured Tian Kung-2 surface-to-air missiles designed to defend air bases and critical infrastructure. Smaller mobile air defense systems operated by the army and navy, such as U.S.-provided Stinger man-portable air defense systems (MANPADS) and Avenger systems, aim to prevent the PLA Air Force from providing close-in air support to their invading forces.

***Mines and Missiles.*** Sea mines and antiship cruise missiles are critical capabilities at the heart of the ODC and thus warrant a more detailed discussion. Because the ODC prioritizes countering an amphibious invasion force in Taiwan's littoral and beach zones, these two inherently asymmetric systems favor the smaller defender against the larger aggressor, taking advantage of short lines of communication and Taiwan's complex terrain.

Coastal defense mines are a key component of Taiwan's defense strategy and a bellwether of institutional support for the ODC. Historically, sea mines have proved difficult to counter by an invasion force. In the Korean War, for instance, the U.S. invasion force at Incheon

landed before North Koreans could deploy sea mines. U.S. forces landed quickly, met heavy resistance ashore, and found warehouses full of mines after they cleared the beach. At the attack on Wonson a month later, sea mines were deployed offshore before the planned invasion. Two minesweepers were destroyed by mines while under fire from shore-based artillery and clearing operations took two weeks. U.S. Marine and Army units embarked on transports had to wait offshore for 5 days for lanes to be cleared, which only happened after North Korean forces abandoned their positions.<sup>13</sup>

Taiwan has asked the United States to provide Quickstrike MK-64 air-delivered sea mines to supplement its inventory and give it a rapid-deployment capability at the outset of a conflict, but that system has not been notified to the U.S. Congress to date.<sup>14</sup> Taiwan possesses World War II-era MK-6 mines acquired from the United States, which have been periodically refurbished. Modern mines were produced by the government-led National Chung Shan Institute for Science and Technology (NCSIST), Taiwan's main designer and manufacturer of defense articles, around 2002, and the navy actively practices deploying them, but little is known about their quantity.

President Tsai Ing-wen brought considerable attention to mine warfare, however, when she visited the shipyard building Taiwan's new fast mine-laying vessel and the new missile corvette, which will be fitted with mine-rails on the stern, demonstrating a political intersection between the asymmetric strategy and Taiwan's policy objective of building its defense industrial base.<sup>15</sup> Following President Tsai's visit in 2019, the first fast mine-laying vessel was launched in August 2020.<sup>16</sup>

NCSIST is currently developing two new types of shallow- and deep-water influence mines that they plan to deploy by 2021, but little progress has been reported and the program is believed to be well behind schedule.<sup>17</sup> They are also developing a self-propelled mine with a planned deployment date around 2025.<sup>18</sup> Until then, Taiwan has been refurbishing its current mine inventory,

which includes domestically manufactured Wan Xiang mines and U.S.-made MK-6 mines.

The Hsiung Feng 2 and 3 antiship missiles are the other weapons at the heart of the ODC. These missiles are fielded by surface ships or fired ashore from a handful of vulnerable fixed batteries and batteries of vehicle-mounted launchers. Mobile vehicle-mounted antiship missiles are inherently survivable, making them effective at the critical moments when a PLA amphibious force is approaching Taiwan and preparing to offload troops and armor.

History has proved how difficult it is for an adversary to find and destroy mobile transporter-erector-launchers (TELs) in a conflict. During the 1991 Gulf War, U.S. and British special forces, along with coalition aircraft, hunted in vain for Scud TELs in the flat and featureless western Iraqi desert. Despite coalition air superiority and multiple special operations units on the ground assigned to hunt TELs, Iraq fired a total of 88 extended-range Scuds against targets in Israel, Saudi Arabia, and Bahrain. Furthermore, Iraqi forces used decoys and deception, as well as shoot-and-scoot tactics, to enhance those missile systems' survivability and add to the uncertainty of coalition forces, leading a postwar Pentagon assessment to conclude, "[T]here is no indisputable proof that Scud mobile launchers—as opposed to high-fidelity decoys, trucks, or other objects with Scud-like signatures—were destroyed by fixed-wing aircraft."<sup>19</sup>

Taiwan's shoreline, which is infinitely more complex than the Iraqi desert, is particularly well suited for concealing mobile missile launchers. Comprised of agricultural areas interspersed with suburban areas, coastal zones in Taiwan feature a complex infrastructure that supports the defender, including sea walls, paddy fields, bridges, tunnels, and overpasses, as well as mountainous zones not far from the coast where TELs and their supporting vehicles can hide. Taiwan has reportedly camouflaged cruise missile battery support vehicles to look like commercial trucks.<sup>20</sup> Taiwan's NCSIST, the maker of Hsiung Feng missiles and launchers, is aware of the possibilities of mounting missiles in structures configured like shipping containers, as

Russia does.<sup>21</sup> Using advanced camouflage techniques, the existence of both camouflaged and conventional launchers, and the use of high-tech decoys complicates targeting Taiwan's TELs. It also greatly increases PLA uncertainty about whether they have destroyed Taiwan's antiship capabilities before launching an amphibious attack.

Expecting that Taiwan's large surface ships will be primary initial targets for the PLA, the ODC also relies on small fast attack vessels, such as the 170-ton displacement, 112-foot long Kuang Hwa fast attack craft. That vessel mounts four Hsiung Feng missiles and can be quickly reloaded in austere locations, such as the small fishing ports that dot Taiwan's coastline. The Taiwan navy is reportedly acquiring another small, 50-ton vessel based on a catamaran hull, with the first test-bed platform called *Glorious Star* [光榮之星], carrying four missiles.<sup>22</sup> NCSIST is upgrading missiles and increasing production of antiship cruise missiles, land attack cruise missiles, and surface-to-air missiles to arm new ships and launchers, deepen magazines, and ensure that Taiwan's armed forces have sufficient munitions to hold out for an extended period. While the ODC does not prescribe that the Taiwan military retire its large conventional weapon systems or neglect peacetime missions, it highlights the importance of investments in asymmetric, survivable capabilities and doctrine that directly target an invasion.

***Orphans of the Overall Defense Concept.*** The ODC is animated by the most critical mission of the Taiwan military: denying China the ability to land and resupply an invasion force. Beijing can use blockades, coercion, hybrid warfare, or gray zone pressure, but the only thing that guarantees that Beijing can achieve its political objective of Taiwan's surrender is putting PLA boots on the ground and physically seizing control of the island. Preventing that outcome is, therefore, the most fundamental mission of Taiwan's military, but it is not the only one.

Taiwan's military also has a multitude of peacetime missions and other potential contingencies for which it must prepare. Taiwan will therefore continue to invest in platforms that do not directly support the asymmetric warfighting concept, or which are unlikely to survive

the initial waves of fire strikes prior to an invasion. Unpublished Taiwan Ministry of National Defense (MND) depictions of the ODC include icons of Taiwan's fixed-wing aircraft, capital ships, large unmanned aerial vehicles, large submarines, and fixed sites such as the powerful Pave Paws surveillance radar atop Leshan Mountain that are unlikely to survive initial air and missile strikes, denoting that they are an integral part of the ODC in the military's eyes, despite their lack of an asymmetric pedigree. The published depiction of the ODC in Taiwan MND's 2019 National Defense Report emphasizes the ODC's focus on the littoral zone and landing beach, as well as the role of coastal defense missiles, area-effects weapons, mines, and small attack craft (figure).<sup>23</sup>

Taiwan's vulnerable runways and the inability to disperse outside the range of Chinese air and missile strikes make it unlikely that the Taiwan air force's fixed-wing assets will survive initial bombardments. Patriot and Tian Kong surface-to-air missile batteries, runway repair capabilities, and the underground facility at Jiashan Air Base that is intended to shelter a portion of the air force are insufficient to protect or reconstitute fixed-wing capabilities in the face of the PLA Rocket Force's numerical advantage in ballistic missiles or air-to-surface munitions delivered by the PLA Air Force. As a conflict progresses, the Taiwan air force will eventually be forced to make its warfighting contributions without functioning runways destroyed by repeated strikes, resorting to mobile air defenses, small drones, and maintaining critical command, control, communications, computers, intelligence, surveillance, and reconnaissance infrastructure to enable a joint defense.

The Taiwan navy is building large amphibious transport vessels and a future large air defense destroyer, which are also likely to be targeted and sunk in the early phases of a conflict. It is unclear what role Taiwan's future Indigenous Defense Submarine will play in targeting the surface ships of an invasion force since it is expected to be a large, conventional diesel electric design similar to Taiwan's existing two *Hai Lung*-class submarines, which are optimized for deep, open water, rather than the shallows found

Figure. Diagram of the Overall Defense Contract



Source: 2019 National Defense Report (Taipei: Ministry of National Defense, 2019), 69, available at <<https://www.ustaiwandefense.com/tdnswp/wp-content/uploads/2020/02/Taiwan-National-Defense-Report-2019.pdf>>.

in the Taiwan Strait. Taiwan's submarines could present a threat to PLA surface combatants outside the strait, particularly if they seek to operate on the east side of Taiwan, but U.S. Navy submarines are expected to be operating in those areas in defense of U.S. surface action groups and carriers, necessitating a robust water space management regime to ensure Taiwan submarines are not eliminated by friendly forces.

Investments in submarines, large surface vessels, and fighter aircraft are necessary for Taiwan to recapitalize its aging legacy force so the air force and navy can continue to provide peacetime deterrence and resist PLA gray-zone pressure. The challenge for Taiwan is ensuring that there is adequate defense funding for these large, prestige-enhancing platforms that are the darlings of their service chiefs, while also funding the small, maneuverable, and survivable asymmetric systems that are critical to Taiwan's survival.

## Obstacles to Implementation

While Taiwan's Ministry of National Defense has embraced the ODC, support for it is not unconditional and implementation has been uneven. The ODC was mentioned for the first time in Taiwan MND's biennial defense report in 2019. Its presence in the widely coordinated document indicates that a consensus has been reached about its centrality to the "resolute defense and multi-domain deterrence" strategy that MND has employed since 2017. The annual 2019 Han Kuang exercises, which focused on littoral combat and beach defense, were described by the MND's spokesperson as an exercise to implement the ODC, indicating that it is evolving past the concept stage and already informing training and potentially doctrinal development.<sup>24</sup>

The ODC has also received President Tsai's public endorsement several times. Speaking to a Washington,

DC, audience in 2019, she said, “Already we have increased our defense budget over the past 2 years in a row. These funds will go into strategies, techniques, and capabilities that make our fighting force more nimble, agile, and survivable. These ideas are encompassed by the Overall Defense Concept, which has my support 100 percent.”<sup>25</sup> She reiterated her support again in August 2020, speaking to another conference organized by a Washington, DC, think tank, by stating, “I am committed to accelerating the development of asymmetric capabilities under the overall defense concept.”<sup>26</sup> The ODC is particularly well aligned with President Tsai’s industrial strategy to develop Taiwan’s indigenous defense industry. The numerous, small, maneuverable, affordable platforms called for in the ODC can generally be made by domestic firms or NCSIST. In addition to supporting the ODC, increasing spending on domestic defense contractors benefits Taiwan’s economy and increases domestic support for more defense spending, while also reducing reliance on the United States as Taiwan’s sole supplier of weapons.

However, support for the ODC within the Ministry of National Defense is mixed. Service chiefs generally feel that the ODC constrains their acquisition prerogatives, forcing them to work harder to justify acquiring expensive, large platforms as part of the recapitalization of Taiwan’s legacy force. According to serving and recently retired officers, the most-senior officers in MND rarely, if ever, mention the ODC. One- and two-star general and flag officers likewise keep their personal preferences to themselves as they navigate service politics. The Chief of the General Staff from January 2020 until June 2021, Admiral Huang Shu-kuang, was personally opposed to the ODC and succeeded in preventing it from being mentioned in Taiwan’s 2021 Quadrennial Defense Review (QDR). Though the QDR recognizes the importance of asymmetric forces for Taiwan’s defense, it also embraces the conventional defense-in-depth principle, calling for larger, conventional systems which would be able to strike the mainland during the early stages of an invasion, even though those conventional systems are assessed to be less survivable and vulnerable to PLA initial fire strikes. The

current Chief of the General Staff, General Chen Pao-yu, is believed to be supportive of the asymmetric and innovative principles embedded in the ODC concept, but internal debate within the ministry about the role of mainland strikes and offensive cyber is ongoing. Some are referring to this debate somewhat glibly as “ODC 2.0,” while others assert that thinking in MND has evolved “beyond ODC” in response to developments in PLA capabilities. At the time of writing, the ODC term is not expected to appear in the MND’s 2021 annual defense report, and it is doubtful that the concept will resurface in the future as the ministry continues to explore conventional defense-in-depth concepts.<sup>27</sup>

The majority of mid-level staff officers are openly enthusiastic about the ODC because they recognize the intrinsic value of adopting an asymmetric strategy against the PLA, but they too have little incentive to challenge senior officers.<sup>28</sup> The unwillingness of the senior-most officers in Taiwan’s MND and services to openly support an asymmetric strategy reveals Admiral Lee’s sponsorship of the ODC during his tenure as Chief of the General staff as a courageous decision, which was noted by President Tsai at his retirement ceremony.<sup>29</sup>

Acquisitions are the heart of contentions over the ODC’s asymmetric focus, with services championing their preference for large, expensive systems, including the Taiwan air force’s F-16Vs and Indigenous Defense Fighter and the navy’s Indigenous Defense Submarine, future destroyer, and landing platform dock ship. Proponents of the ODC argue that these expensive systems are unlikely to survive initial PLA fire strikes or be effective at attriting invasion forces as they approach Taiwan’s littoral zone, while their big price tags squeeze a small defense budget that is growing ever-so-slowly under President Tsai. To their credit, the services have invested in some asymmetric systems, such as small unmanned aerial vehicles, MANPAD missiles, coastal defense cruise missiles, a fast mine-laying vessel, and fast missile corvettes. Budget pressures, however, have caused the delay of some small, mobile, asymmetric systems, such as the “micro-class missile assault boat.”<sup>30</sup>



The ODC does not specifically designate some weapon systems as asymmetric and others as conventional, giving military leaders and lobbyists considerable latitude to associate their preferred platform with the ODC strategy or argue that a particular system is necessary for the defense of Taiwan. It is therefore very difficult to judge whether a particular system being acquired is “good” or “bad” for Taiwan’s total defense, since one could argue the need for expensive platforms for peacetime deterrence, and for smaller, numerous, asymmetric capabilities that can survive to counter an invasion force. With limited acquisition resources, however, Taiwan’s defense planners face a challenging situation. There is strong political support to prioritize expensive, imported U.S.-made systems, which have considerable value as a political deterrent to PLA aggression. However, the ODC favors cheaper, smaller, locally made systems whose larger numbers and mobility are more likely to survive initial fire strikes and be waiting on the beaches for the PLA to arrive.

## What Is Missing from the ODC?

Most discussion about the ODC in Taiwan revolves around procurement of weapon systems. Proponents of large, conventional legacy systems argue that the Taiwan military faces other critical missions besides littoral and beach defense (such as disaster relief), while forward-looking thinkers argue that the ODC’s asymmetric capabilities must be fulfilled first to protect the homeland and win “the fight Taiwan cannot afford to lose” before spending on conventional capabilities for peacetime missions. What has been noticeably absent from ODC discussions, however, are two critical issues: personnel and logistics.

**Personnel.** Taiwan’s decision to transition to an all-volunteer force affects all aspects of the armed forces and necessitates a thorough review to understand how it will affect Taiwan’s defense planning processes. The ODC must take those personnel issues into account. The transition to a volunteer force has already increased personnel costs and resulted in a downsized force.<sup>31</sup> Taiwan’s low birth rate—the second lowest in the world—puts ad-

ditional pressure on the volunteer force structure, as the military will need to compete even harder with the private sector for recruits from a shrinking pool of candidates every year.

Taiwan’s annual military recruitment targets range between 18,000 and 28,000 per year, but the total annual number of births is between 180,000–200,000 per year (and declining steadily). Taking low figures of each, Taiwan’s military must attempt to recruit roughly 10 percent of the 18-year-olds entering the workforce each year to maintain its current force size.<sup>32</sup> By comparison, the U.S. military sought to recruit 171,000 enlisted soldiers for the Active-duty force in 2019, from a population of four million live births in 2002, or approximately 4 percent of the total.<sup>33</sup> The personnel challenges that Taiwan’s military faces, ranging from recruiting, training, sustaining, and retaining soldiers have not been addressed by senior political or military leaders despite their centrality to ODC and to Taiwan’s future defense capability.

One area where personnel issues have been raised in the context of the ODC is Taiwan’s reserves. The decision to transition to an all-volunteer force during the Ma Ying-jeou administration from 2009 to 2011 was not accompanied by a robust discussion within the military about how it would affect the force, including Taiwan’s reserves. Historically, Taiwan maintained a strategic reserve made up of able-bodied adult males who had all completed 2 years of military service under the conscription system. The end of meaningful conscription undermines the all-out mobilization system and necessitates the need for a professional reserve force to support and complement the professional Active-duty force.<sup>34</sup>

How that reserve force supports the ODC strategy is undetermined at this point, but several analysts, including the now-retired Admiral Lee, have proposed that Taiwan form a territorial force of reservists who are “trained for localized operations with decentralized command, as the nature of warfare will be urban and guerrilla. . . . During peacetime, the territorial defense force would be responsible for localized disaster relief, and during war, protection of critical infrastructure and

defense of secondary enemy landing sites.”<sup>35</sup> The concept of a territorial force was proposed directly to President Tsai by a visiting high-level delegation of U.S. Government officials in 2020, potentially stimulating discussion of the future role of Taiwan’s reserves at the highest levels of government and MND.<sup>36</sup>

**Logistics.** Dwight Eisenhower once said, “You will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics.”<sup>37</sup> Unfortunately, like personnel, logistics has not been raised in the context of the ODC. The ODC’s premise of taking advantage of short lines of communication and fighting close to Taiwan’s shores can be seen as an advantage, but its emphasis on force preservation at the outset of a conflict means that forces will be dispersing, relying on mobility to survive. This requires the ODC to consider a dynamic approach to supporting those forces on the move. Because the Taiwan army and navy will need to sortie out from their bases at the outset of a conflict to survive the expected initial PLA missile strikes, Taiwan’s military logistics system also will need to disperse to survive. How Taiwan supports forces, including the delivery of war reserve munitions to functioning units in the field in the later stages of a conflict, will strongly influence the effectiveness of the ODC.

Managing war reserve munitions are also a critical challenge for Taiwan’s military. Determining what levels of stocks are adequate, acquiring them from a perceived fickle United States that has often deliberated over arms sales for long periods, then maintaining those stocks as they age is a massive, expensive undertaking. Taiwan’s defense planners and decisionmakers have historically taken a conservative view of munitions requirements and refrained from “over-ordering” munitions. This conservatism is due to tight budgets and resource competition in each service, a military training culture that limits live-fire training activities, the high-cost of sustaining stored munitions, and a belief that stored munitions do not play a meaningful role in deterrence compared to highly visible platforms, such as tanks, planes, and ships. Congressional notifications for both the Patriot and Harpoon Coastal Defense Systems

indicate that Taiwan ordered only enough missiles to support purchased batteries without ordering “reloads.”<sup>38</sup>

Taiwan cannot rely on the United States to resupply munitions at the outset of a conflict for two key reasons. First, the area around Taiwan would be contested by PLA air and surface units, which undoubtedly will consider the vulnerable planes or ships supplying Taiwan priority targets. Second, U.S. war reserve stocks in the Pacific would be earmarked for U.S. forces that would be coming to Taiwan’s defense. Producing new munitions in the United States or finding and supplying them from Department of Defense global stockpiles would take time and probably not arrive in Taiwan until the air and sea space around Taiwan were secure. Taiwan’s logistics experts will need to develop strategies to preserve war reserve munitions stocks, so they are not destroyed in their bunkers and storage depots. Ensuring that the right stocks are available at the right place and time would require dispersing them quickly to highly mobile units employing asymmetric, shoot-and-scoot tactics, in addition to anticipating firing and reloading locations in advance of units arriving.

## U.S. Interests in the ODC

U.S. national interests in sustaining Taiwan as a free and open society in the Asia-Pacific, as well as the commitment in the Taiwan Relations Act to providing Taiwan with defensive arms and maintaining the U.S. capacity to resist the use of force or coercion, make Taiwan a crucial credibility test for U.S. security assurances to other states in the region. The United States is, therefore, a critical stakeholder in Taiwan’s defense planning process and a key partner incentivized to help Taiwan effectively implement the ODC.

DOD broadly supports the ODC because it is Taiwan’s own defense concept and aims to maximize Taiwan’s comparative advantages. Various U.S. officials have publicly voiced their support for the ODC, which also reflecting a recognition that the concept promises to be an effective plan against a much larger adversary.<sup>39</sup> That said, U.S. officials have also consistently approved the sale of high-profile, expensive U.S.-made arms. These

systems have key benefits that are consistent with the ODC's strategic objective of deterring aggression, even if they are less survivable than asymmetric ones. Conventional U.S.-made systems are a tangible measure of U.S. commitment to Taiwan's defense, which boosts morale in Taiwan and increases uncertainty in Beijing. Possession of these U.S.-made systems also helps MND in recruiting efforts, capturing the imagination of Taiwan youth who want to join a cutting-edge military, operating advanced weapon systems.

Taiwan's acquisition of U.S. and indigenous long-range strike weapons with ranges beyond 300 kilometers provides an added dimension to the ODC. Taipei's top China-watchers will need to determine for themselves whether the prospect of missile strikes on major Chinese cities will achieve the most important strategic objective of deterring an attack on Taiwan, while defense planners are focused on the operational impact of mainland strikes on the PLA. Systems such as the indigenous Hsiung Feng 2E land-attack cruise missiles and the air-launched Wan Chien air-to-ground cruise missile have been in Taiwan's inventory for over 10 years, while the supersonic, long-range Yun Feng cruise missile is reportedly being modified to launch small satellites.<sup>40</sup> These capabilities are joined by recent acquisitions from the United States—a marked departure from Washington's previous practice of avoiding selling long-range weapons to Taiwan. U.S. sales include the AGM-84H Standoff Land Attack Missile Expanded Response, notified in October 2020, and the AGM-154C Joint Stand-Off Weapon, notified in June 2017, to give the Taiwan air force additional options to strike mainland targets.<sup>41</sup> The U.S. decision in October 2020 to sell HIMARS gives the Taiwan army a defensive long-range strike capability that can reach portions of China's coastline, potentially placing embarkation points for a PLA invasion force at risk.

After China has initiated attacks on Taiwan, long-range counter-strike options give Taiwan considerable flexibility in determining how to respond. The most strategic objective for initiating mainland strikes is boosting the morale of the Taiwan people, giving them the will to

resist, even in the face of strikes on Taiwan. The military effects of those initial counterstrikes need not be large to be powerful, much as the Doolittle Raiders boosted U.S. morale in the early days of World War II. Taiwan defense strategists can consider the relative benefits of striking military or economic centers to achieve specific effects, either to disrupt society, the economy, or military capabilities and then determine the optimal capability to deploy at the optimal time. For example, the 300 kilometer-range HIMARS artillery might be well suited to attack mainland command and control targets or coastal embarkation points to disrupt an invasion force or degrade coastal integrated air defense systems, while Taiwan's ground and air-launched land attack cruise missiles might target urban areas to demoralize China's population, cause economic effects, or complicate war-mobilization efforts.

In addition to mainland strikes, Taiwan may also carry out cyber attacks to deter China or degrade its ability to carry out an invasion as part of an expanded ODC. It is unclear whether the threat of cyber attacks would deter Beijing due to the difficulty of signaling in this domain, or whether cyber attacks on critical infrastructure and defense networks in China would support Taiwan's defense effort by hampering Chinese mobilization efforts. The threat of U.S. intervention remains the most critical factor, but as the PLA continues to modernize and expand, including with A2/AD capabilities designed to challenge a U.S. intervention, Taiwan's own defense capabilities to counter a PLA invasion become an increasingly important deterrent.

One challenge for the United States supporting Taiwan is that Taiwan's defense needs are diverging from the expertise and systems the U.S. military can readily provide. For example, the U.S. Marine Corps does not have a dedicated opposing force that Taiwan could train with to hone their skills in defending beaches. Nowhere in the U.S. Marine Corps is there a center of excellence or red team that specializes in beach defenses; opposed beach landings are long gone from U.S. Marine Corps doctrine. Commanders of Taiwan's squadrons of small

fast attack boats can find no counterpart in the U.S. Navy with whom to train. The U.S. Navy mine warfare community is underresourced, unappreciated, and mines are generally considered a problem, not a solution, by the Navy's legions of surface warfare officers.

Nevertheless, with every challenge comes opportunity. As the U.S. Army develops its multidomain battle concept and applies it to the Indo-Pacific, it will increasingly realize that China is the challenge, the battlespace is Taiwan, and cooperation with Taiwan is a laboratory for developing innovative future warfare concepts. When Admiral Harry Harris, then commanding U.S. Pacific Command, spoke at the Association of the United States Army conference in 2016, he reduced the U.S. Army's key task to a quip, "Army's got to be able to sink ships."<sup>42</sup> The U.S. Army should find solutions and opportunities for expanding their reach into the maritime domain by studying and innovating alongside their counterparts in Taiwan.

Reliance on U.S. systems may also increase Taiwan's interoperability with the U.S. military and possibly other countries in the region. Taiwan's proximity to China is an advantage which could benefit networked U.S. forces operating at greater stand-off distances if those forces are networked with their Taiwan counterparts. For example, a sensor operated by Taiwan could feed data to networked U.S. planes and ships operating at safe distances to increase their awareness of threats and improve targeting. While not explicit in the ODC, the notion of a Taiwan sensor linked to a U.S. "shooter" is exactly the sort of innovation the concept advocates. Furthermore, the recent notification of new U.S. weapon systems, such as unmanned aerial vehicles and the Harpoon Coastal Defense System, with its integrated radars and sensors, increases the feasibility of linking U.S. and Taiwan forces. Interoperability makes Taiwan a potentially significant offset capability for U.S. platforms, which could leverage Taiwan's proximity to an invading adversary. Taiwan's sensors feeding targeting data to U.S. weapon systems operating at greater stand-off distances would make those U.S. forces more accurate and effective against the invader.

Underscoring the significance of the cooperative aspects of the U.S.-Taiwan defense relationship, Admiral Lee has suggested establishing a joint U.S.-Taiwan working group to support implementation of the ODC, along similar lines to the joint working group established in 2007 to assess the threat and consider Taiwan's options. Admiral Lee proposed, "Through conducting contingency simulations and exercises, U.S. officials could offer their operational experience and expertise to guide Taiwan's force restructuring and doctrinal reforms, with an emphasis on military doctrine, force planning, and logistical support, as well as operational tactics."<sup>43</sup> As the ODC becomes central to Taiwan's defense planning, coordination and cooperation between the two sides is critical to help ensure that Taiwan is able to maximize the benefits of their own strategy and find innovative ideas and synergies from joint planning with the United States.

## Conclusion

The beauty of Admiral Lee's Overall Defense Concept is that it embraces an asymmetric strategy, does not seek to compete with China's larger military head on, and focuses Taiwan's resources on targeting the greatest threat while ensuring Taiwan's military survives long enough as an effective fighting force to enable third-party intervention. It eschews traditional symmetrical warfighting of surface action groups, fighter planes, or tanks slugging it out head-to-head with corresponding PLA forces. Instead, it takes a page from guerrilla warfare and envisions large numbers of small, affordable, highly mobile units taking advantage of Taiwan's complex terrain to defeat a larger enemy. Like all good strategies, this concept has both strategic and operational objectives that are clearly set out.

The coalition effort to destroy TELs in the Iraqi desert in 1990 failed in its operational objective to destroy Iraq's missile launchers, but it did achieve its strategic objective of reassuring Israel that all possible measures were being taken to hunt Scuds, which kept Israel from attacking Iraq and undermining the U.S.-led coalition.

Likewise, the ODC is not only intended to achieve an operational objective of ensuring the survival of the Taiwanese armed forces in a high-intensity conflict with China; its strategic objective is to deter China from using force in the first place by creating uncertainty about the PLA's prospects of launching a successful invasion.

The ODC will undoubtedly continue to be debated internally within Taiwan's defense planning community and at the highest levels of the MND. Deliberation will likely evolve beyond the binary choices of symmetrical and asymmetrical capabilities, expanding to a broader focus on capabilities that will affect China's political and military calculations. Advocates for greater investments in conventional long-range strike capabilities observe that they buy time for Taiwan to mobilize its forces, including its reserves who are expected to play a role defending beaches and invasion routes. Once the strategy for littoral and beachhead operations is well-developed and capabilities for fighting in those zones have been acquired, planners can expand the ODC to incorporate new concepts, or expend remaining resources for capabilities that support other missions, such as disaster relief, and the conventional capabilities that offer defense-in-depth options, such as long-range strike. The major unresolved challenge, however, is Taiwan's stagnant defense budget, which is unable to support sufficient investment in both asymmetric littoral defense and conventional long-range strike capabilities.

While approaches to implementing the ODC may differ among competing stakeholders, there is no debate that in 2017, Admiral Lee made a courageous proposal to set Taiwan on this crucial course that contributes to cross-strait stability and ensures Taiwan's survival despite an existential threat from a larger, increasingly capable adversary.

## Notes

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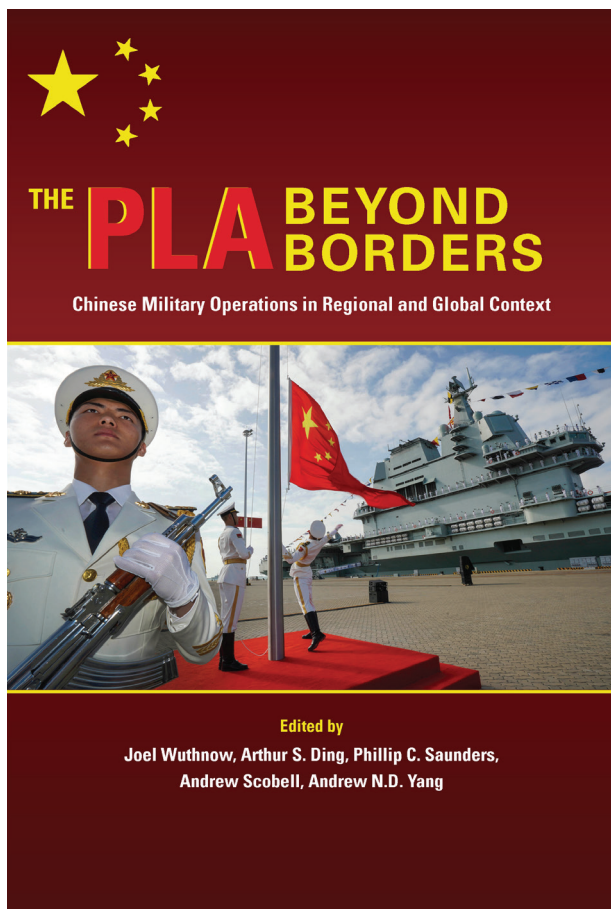
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No longer confined to China's land territory or its near abroad, the People's Liberation Army (PLA) is conducting increasingly complex operations farther and farther from China's continental borders. Within Asia, the PLA now regularly operates into the far reaches of the South China Sea and deep into the Western Pacific, enforcing China's territorial claims and preparing to counter U.S. intervention in a regional conflict. Beyond Asia, the PLA is present on the ground, at sea, or in military exercises with foreign partners across the Indian Ocean and into the Middle East, Africa, and Europe. Foreign militaries now regularly encounter the PLA, whether in tense incidents or friendly contacts, on their home turf and in the global commons.

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