



Overcoming a Chinese A2AD Blockade of Taiwan After Repelling the Invasion

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JCSP 50

Exercise Solo Flight

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OVERCOMING A CHINESE A2AD BLOCKADE OF TAIWAN AFTER REPELLING THE INVASION

Somewhere between ten and fourteen days, is the most likely timeline, as to how the first stages of a China versus the United States (U.S.) and its partners would play out, regarding the defense of Taiwan. This assessment comes from multiple military wargames and think tanks like the Center for a New American Security (CNAS) and the Center for Strategic and International Studies (CSIS). By the best estimates, in a struggle that brings in Japan, the U.S., and Taiwan, China would be unable to take the island by force, even with a one million to two-and-a-half million-man invasion force. This ‘victory’ would not come without a significant cost. While this initial push would likely cost China the majority of its conventional land force, the expenditure of a large percentage of its theater ballistic missiles, and the destruction of many of its fourth and fifth generation aircraft, it would also leave Taiwan crippled, and could cost the U.S. up to two Carrier Strike Groups (CSGs); a blow which would limit U.S. force projection capability for decades.¹

What is often far less discussed in these circles, because the initial problem set is itself so daunting, ‘what comes next’. The island is lacking in basic infrastructure, and while China no longer possesses a credible invasion threat, it still maintains its host of anti-access area-denial (A2AD) weapons which would present a significant risk to U.S. assistance efforts, especially if the cost had already been the loss of two CSGs. Still, the U.S. would have an obligation to keep Taiwan solvent, and as such, needs to look at options now, to ensure long term success beyond the exciting initial kinetic portion of the conflict. China will not abandon the pursuit of reunification even in the face of a failed military invasion. Instead, it will shift its strategy to de facto blockade by leveraging its A2AD capabilities. The U.S. can defeat this effort, by analyzing the threat, and developing mitigating strategies to be executed before and during conflict, and partnering with the Taiwanese people to ensure sustainable resolve in the face of Chinese aggression.

How the world arrived at this crossroads, where global hegemony rests on the outcome of a struggle for a tiny set of islands containing twenty-three million people, is one of the most complex geopolitical situations of the past few centuries. Within JCSP, multiple course modules have touched upon the idea of collective security, or how nations create mutual defense pacts under the United Nations (U.N.) Charter Article 51 umbrella, to ensure sustained global peace and security. It has been acknowledged that these arrangements take many shapes from the long-standing NATO structure, to more short-lived agreements such as when the U.S. created a partnership with Pakistan to combat Al Qaeda.

The collective security arrangement with Taiwan is unique, because in essence the U.S. created a pact with one part of a sovereign country, to protect it against the rest of

¹ Michael Klare, A US-China War Over Taiwan?, *The Nation* (2023), Accessed 19 April 2024, <https://www.thenation.com/article/world/china-taiwan-war-military/>.

sed country. The U.S. rationale behind this is obvious; it maximizes the likelihood of regional security, which is beneficial for U.S. commercial interests. The fact that the independent existence of Taiwan poses a security concern for China was not necessarily a determinant factor behind the creation of the Taiwanese Relations Act (TRA) in 1979, but it has certainly been an added bonus throughout the twenty-tens and early twenty-twenties.

When it was passed in 1979, the TRA was viewed as a necessary compromise in the line with U.S. strategic interests. At the same time official U.S. policy shifted from affirming the Taiwanese government as the legitimate ruling body of China, a stance held since 1949, to accepting the communist government as the official government in their stead, Congress passed a binding resolution guaranteeing the human rights, defense capabilities and support, and economic cooperation with the island.² The reason this arrangement was possible, was the negotiated agreement known as the ‘One China Policy’, in that the U.S. recognized the government in Beijing as the only government of China, and acknowledged that China held the position that Taiwan was their territory, but not choosing to accept or deny that claim, while maintaining separate diplomatic relations with the island.³ At the time, peaceful reunification remained a long term goal of the Chinese, and a goal that seemed attainable. Still, in the overlapping spheres of geopolitics and culture, loyalties drift and evolve over time, and in the case of Taiwan, the outcomes have not been to the Chinese favor.

For Taiwan the issue is one of nationalism. Though the people of Taiwan and the people of mainland China share a similar ethnic and cultural background, the intervening years between 1949, when Chiang Kai-shek took his nationalist forces across the Strait of Taiwan, have born witness to the rise of a new nation, which views itself as incompatible with the nation-state known internationally as the People’s Republic of China. The delineation between nation, and nation-state is important because whilst the people of Taiwan have little appetite for immediate establishment of a nation-state, they have even less interest in rejoining China under a one-nation two-system policy in the likeness of what Hong Kong enjoyed for a short period, before being violently repressed. In a 2020 poll less than nine percent of Taiwanese favored either immediate return to Chinese rule, or reunification in the future. Comparatively, about eighteen percent favored immediate independence (still a minority figure), with just over thirty percent leaning toward a future establishment of an independent state. Over half of the votes favored long term maintenance of the status quo, whereby national interests would be respected.⁴

² 96th U.S. Congress, H.R. 2479 Taiwan Relations Act, Accessed 19 July 2024, <https://www.congress.gov/bill/96th-congress/house-bill/2479>.

³ Michael Green, What is the U.S. ‘One China’ Policy, and Why Does it Matter?, Center for Strategic and International Studies, Accessed 19 April 2024, <https://www.csis.org/analysis/what-us-one-china-policy-and-why-does-it-matter?>

⁴ Chaia-hung Tsai & Tsung-han Tsai, Explaining Change In Independence–unification Views In Taiwan: A Within-between Model, *Asian Journal of Communication*, 32(2), Accessed 19 April 2024, <https://doi-org.cfc.idm.oclc.org/10.1080/01292986.2022.2034903>.

Tangibly, this has manifested across the previous two national elections as the Kuomintang (KMT), which maintains stronger relations with the mainland, has been defeated by the Democratic Progressive Party (DPP), which has taken on the position of independence or maintenance of the status quo, on back to back occasions for the first time in Taiwanese history. This turn has been seen as particularly auspicious in the eyes of mainland leadership, which has dropped the terminology ‘peaceful reunification’ from its lexicon as of late April 2024, during Premier Li Qiang’s speech at the opening of the National People’s Congress.⁵ Qiang, as the second ranking member of the Chinese Communist Party (CCP) was re-affirming the stance set forth by his boss, Xi Jinping.

This shift in policy is a relatively recent turn of events. As of three years ago, President Xi delivered public addresses vowing to achieve reunification by peaceful purposes.⁶ At the time, this likely seemed a prudent choice of voice tracks, as the year prior bore witness to the rise of the DDP, and Xi was calculating what narrative would play well with the Taiwanese population, but the softer stance proved ineffective, as the lead up to the 2024 elections were largely predicted to stay in favor of the DDP.

This shift away from his desired end state has caused Xi to adjust his rhetoric, and direct internal readiness changes which have increased the likelihood of kinetic engagement to decide the island’s future. By the start of 2023, Xi no longer promoted ‘peaceful’ reunification, but rather stated that reunification with the mainland was inevitable, and the party line shifted to the fact that China has never said military force was off the table.⁷ Behind the scenes it is largely assessed that Xi has directed his military to be ready for a confrontation by 2027. Before the House Armed Services Committee, the Commander of U.S. INDOPACOM testified that all indications point to the People’s Liberation Army (PLA) being ready to meet Xi’s alleged goal of potentially invading Taiwan by 2027. This effort has been enabled by a sixteen percent increase in military expenditures since 2020, when the inevitability of peaceful reunification first came into doubt.⁸

Without delving too much on the initial struggle, which has been the focus of so many other works, it is sufficient to say that the same stand-off capabilities employed during the conventional fight, would also be of significant utility in attempting to conduct

⁵ Reuters, China Drops ‘Peaceful Reunification’ Reference to Taiwan, Raises Defense Spending By 7.2%, U.S. News, Accessed 20 April 2024, <https://www.usnews.com/news/world/articles/2024-03-04/china-drops-peaceful-reunification-reference-to-taiwan-raises-defence-spending-by-7-2>.

⁶ Vincent Ni, Xi Jinping Vows to Fulfil Taiwan Reunification with China By Peaceful Means, The Guardian, Accessed 19 April 2024, <https://www.theguardian.com/world/2021/oct/09/xi-jinping-vows-taiwans-reunification-with-china-will-be-fulfilled>.

⁷ Niamh Lynch, China’s Xi Jinping Ramps Up Threats Against Taiwan – Warning ‘Reunification’ Is Inevitable, SkyNews, Accessed 19 April 2024, <https://news.sky.com/story/chinas-xi-jinping-ramps-up-threats-against-taiwan-warning-reunification-is-inevitable-13040184>.

⁸ Ty Roush, China Will Be Ready to Invade Taiwan By 2027, U.S. Admiral Says, Forbes, Accessed 20 April 2024, <https://www.forbes.com/sites/tyleroush/2024/03/20/china-will-be-ready-to-invade-taiwan-by-2027-us-admiral-says/>

an over-the-horizon blockade. In the air, where the U.S. has had notable successes keeping the encircled 101st Airborne in the fight during the Battle of the Bulge, and West Berlin civilians fed during the Soviet blockade, China has introduced capabilities which would pose grave risk to military strategic airlift. Specifically, they've developed two missile variants, the PL-15 and the PL-X (sometimes called the PL-17) with capability to strike aircraft operating over and beyond Taiwanese airspace. The PL-X represents the greatest threat to the air operating environment with an assessed range of 186 miles; more than twice the distance of the Taiwan Strait itself. This means that China could theoretically fly a continuous denial campaign without ever leaving its own air space.

The naval picture is perhaps more daunting still, and when one considers the sheer volume of materials required to maintain twenty-three million people and that the sea offers the only avenue to effectively meet these needs, the reality is nothing short of nightmarish. The crown jewel of China's A2AD arsenal is the DF-26 intermediate range ballistic missile (IRBM), which was designed with two purposes in mind; targeting forward deployed bases such as the ones the U.S. has on Guam and Japan, and preying upon U.S. Navy ships. The missile, with an assessed range of one thousand to three thousand kilometers, not only poses a threat to ships operating in the vicinity of Taiwan, but all the way out to the edge of the second island chain. As of 2024 the exact depth of China's DF-26 arsenal is unknown, but it had already grown to over 500 missiles and 250 launchers by 2021; a significant threat already, but one which will likely only grow by orders of magnitude.⁹

While supplying Taiwan by land is in itself impossible, the sheer enormity of the Pacific necessitates permanent locations strategically placed to enable refueling, first line repair work, and resupply its own stores. Without forward bases in places like Hawaii, Guam, and the Philippines, a ship would be left to transit for up to a month, just to cover the distance. Ignoring nuclear threats, though admittedly a direct conflict between the U.S. and China where tens of thousands of lives are being lost and cutting edge weapons are being expended rapidly the nuclear threat is not irrelevant, the primary threat to fixed island positions across the region is the same as at sea, the DF-26. Compared to mobile ships, which possess organic countermeasures, fixed sites present significant targets of opportunity. The only question as to whether or not they will be rendered unusable lies in the amount of munitions China can stockpile before the engagement begins, and how it prioritizes maritime targets against land ones. As will be discussed later, the U.S. can mitigate the loss of these locations would impose upon force projection, but it can readily be assumed that staging locations in Guam, Japan, and the Philippines will be unfeasible.

What many have failed to consider, in either focusing simply on that hypothetical initial struggle, or in terms of not correctly understanding the problem set, is that modern Taiwan cannot functionally exist outside of the rules based international order (RBIO); specifically, the governance structures that enable free oceanic just-in-time trade. It

⁹ Chris Panella, China Could Strike Far More Than Just Flattops With Its Growing Arsenal of 'Carrier-Killer' Missiles, Defense Expert Says, Business Insider, Accessed 19 April 2024, <https://www.businessinsider.com/china-growing-df-26-missile-arsenal-more-than-carrier-killers-2023-10>

possesses none of the necessary infrastructure to sustain itself, generate power organically, or create the quantity of munitions necessary for a prolonged siege.

The nation of Taiwan is home to approximately of twenty-three million citizens. Of those twenty-three million people, roughly eighty percent of them live in urban areas. Air pollution is common across the region, and water contamination via sewage and industrial runoff make for poor drinking water and poor supply for agriculture production. Only about twenty-three percent of the island is even considered appropriate for agriculture, with only about six percent currently being utilized in this fashion.¹⁰ Taiwan has no current meaningful method to meet its sustenance needs. In measurable terms, Taiwan's food self-sufficiency rate is roughly forty percent.¹¹ This figure is a bit complex to be taken at face value. Part of the reason the percentage is so low, is because of the rich and complex diet Taiwanese people currently enjoy as a product of global shipping. Traditional low-value dietary staples such as rice, have been supplanted with calorie-rich options like wheat, and processed western foods. In a prolonged siege, Taiwan will have to make tough choices, and they will require support but they will not be without options.

In a study conducted in 2020, the U.S. Department of Agriculture reported that Taiwan foodstuffs would last approximately six months under a full Chinese blockade. The only crop which might last longer, would be rice, which Taiwan produces in abundance.¹² To their credit, it is not as if the Taiwanese government has ignored their perilous reality. They have turned food resiliency into a securitized issue, and instituted a four-part policy at increasing domestic production, increasing food reserves and the infrastructure necessary for long term storage, and reducing reliance upon imports.¹³ While still in the early stages of implementation, these initiatives have seen significant foreign investment, particularly from the U.S. in terms of creating the environment necessary to reduce external resupply during a crisis.

Besides being reliant upon trade for food, Taiwan is also in a precarious situation when it comes to energy resiliency; a reality that will likely be exacerbated by the first phase of the conflict when China layers non-kinetic cyber attacks with its conventional TBMs to degrade power generating infrastructure across the island. The country relies upon fossil fuel imports for over ninety-seven percent of its electricity needs, and at least as of a 2021 investigation into its stockpiles, it maintained only thirty-nine days of coal, one hundred and forty-six days of oil, and eleven days of natural gas reserves. Natural gas is particularly concerning as it accounts for almost forty percent of daily electricity

¹⁰ Explore All Countries – Taiwan, *The World Factbook*, Accessed 19 April 2023, <https://www.cia.gov/the-world-factbook/countries/taiwan/#people-and-society>.

¹¹ Gustavo Ferreira & Jamie Critelli, Taiwan's Food Resiliency-Or Not-In a Conflict With China, *Parameter* Vol. 53 Issue 2 (2023); 42, Accessed 19 April 2024, Retrieved from <https://www.proquest.com/docview/2820137608?accountid=9867>.

¹² *Ibid*, 46.

¹³ *Ibid*, 40

generation.¹⁴ One internal mitigation available to Taiwan, would be to cycle down its chip manufacturing industry which places a significant power burden in and of itself. In times of existential crisis, when sacrifices must be made, fossil fuel reserves could be extended by days to weeks simply by limiting electricity usage to critical functions, thus preserving power for defense and civilian necessities.

Finally, besides fuel and food, the third area in which Taiwan would require continuous support is munitions. If the conflict in Ukraine has taught the world anything about modern conventional conflict, it is that policy makers have drastically underestimated the scale at which wars would be waged. At their peak, Russia hurled over sixty thousand artillery shells at the Ukrainians every single day. Those numbers have come down due to supply shortages, but the Ukrainians, in turn, using NATO stores, have returned about eight thousand rounds daily, themselves. Perhaps as a silver lining to the tragedy of that conflict, it served as a wakeup call to the U.S., who has recently invested billions to reinvigorate the munitions manufacturing industry, with hopes to return to cold war era levels of production by 2026.¹⁵

Exact readiness figures are never easy to source. Often these metrics are guarded state secrets, and Taiwan is no exception. However, in 2020 a story broke regarding one Taiwanese Lieutenant's suicide caught media attention and forced transparency on the lack of capability across the force. Lieutenant Huang Zhi-jie from the 269th Mechanized Infantry Brigade, a frontline unit tasked with defending Taoyuan City, hung himself after being told he needed to personally buy replacement parts that had gone missing in his logistics unit's area. In the aftermath of the investigation, it became clear that what he experienced was a common occurrence in a force where, for years, the priority had been the display or appearance of a combat credible force, regardless of the substantive combat readiness of the capabilities. An active duty Sergeant was quoted as having observed roughly a thirty percent readiness level across the tank force when he factored for the gun, engine, and tracks all being in functional states.¹⁶ This state of affairs is certainly not unique to Taiwan, as similar tales can be told across western militaries, but it does highlight the criticality of the situation for a country facing the prospect of invasion within three years.

Organically, they have proven serious about improving their defensive prospects by doubling missile production, from two hundred and seven to four hundred ninety-seven, of its air-to-ground, anti-ship, and long-range strike variants.¹⁷ While five hundred

¹⁴ Jeff Kucharski, Taiwan's Greatest Vulnerability Is Its Energy Supply, *The Diplomat* (2022), Accessed 20 April 2024, <https://thediplomat.com/2022/09/taiwans-greatest-vulnerability-is-its-energy-supply/>.

¹⁵ Ukraine Uses More Ammunition Every Day Than France Does In A Year – And Russia Uses More, *The New Voice of Ukraine* (2023), Accessed 19 April 2024, <https://www.yahoo.com/news/ukraine-uses-more-ammunition-every-123400376.html>.

¹⁶ Paul Huang, Taiwan's Military Has Flashy American Weapons But No Ammo, *Foreign Policy* (2020), Accessed 19 April 2024, <https://foreignpolicy.com/2020/08/20/taiwan-military-flashy-american-weapons-no-ammo/>.

missiles a year may sound like an insignificant figure, if the capabilities are in family with the Chinese DF-26 then they might be incredibly effective in pushing Chinese front line operations away from the coast, and back to the point that threat would be less of a factor in countering resupply operations. The requirement to build such high-end capability comes with the obvious trade off of needing support in other areas.

To defeat a Chinese blockade, the U.S. response needs to be three-fold. It must pre-position, in priority order, the materials necessary to keep Taiwan solvent. The military, particularly the Navy, must leverage recent developments in logistical capability to conduct operations under increased risk. Finally, the nation must pose ethical dilemmas to Chinese decision makers by partnering with commercial carriers to deliver humanitarian aid, and dare China to lose the international narrative by waging war on non-combatants.

This first area, regarding pre-positioning begins with the question of munitions. In terms of valid military targets, a ship carrying small arms rounds, Stinger and Harpoon missiles, or High Mobility Artillery Rocket Systems (HiMARS), not only would this be exactly the sort of shipment against which China would expend a salvo of DF-26's missiles, it would also be a justifiable act in the eyes of the international community. For this reason, it is imperative that Taiwan and the U.S. leverage the TRA as justification to place as much military equipment as possible on the island in the next two to three years.

In this area, the partnership is thriving. Pundits bemoan the nearly nineteen billion dollars' worth of equipment that Taiwan has purchased from the U.S., but has not yet received.¹⁸ The truth is that these purchases are of the cutting-edge variety that usually are delivered on a two to four-year delay as a rule. Quite a few military deals have been done between the two nations, of a smaller scale, in a timely manner. In 2023 alone, the partners completed a deal worth four hundred and forty million, which furnished Taiwan with thirty-millimeter rounds, and parts for the Taiwanese CM34 Armored Vehicles.¹⁹ That deal was actually the smaller effort between the two, as the 2023 National Defense Authorizations Act (NDAA) authorized one billion in 'Presidential Drawdown Authority' (PDA) weapons deliveries to Taiwan. This provision enabled a series of deals throughout the year, whereby Taiwan was able to purchase a billion dollars' worth of combat capability from existing U.S. reserves rather than tasking a defense contractor to add new requirements to their balance sheets.²⁰

¹⁷ Yimou Lee, Taiwan to More Than Double Annual Missile Production Capacity Amid China Tension, Reuters (2022), Accessed 19 April 2024, <https://www.reuters.com/world/asia-pacific/taiwan-more-than-double-annual-missile-production-capacity-amid-china-tension-2022-03-03/>.

¹⁸ Jennifer Kavanagh & Jordan Cohen, The Real Reasons For Taiwan's Arms Backlog – And How to Help It, War On The Rocks (2023), Accessed 19 April 2024, <https://warontherocks.com/2023/01/the-real-reasons-for-taiwans-arms-backlog-and-how-to-help-fill-it/>.

¹⁹ Jaime Moore-Carrillo, US State Dept. Approves \$440 Million Ammo, Logistics Deals For Taiwan, Defense News (2023), Accessed 20 April 2024, Retrieved from <https://www.defensenews.com/global/asia-pacific/2023/06/30/us-state-dept-approves-440-million-ammo-logistics-deals-for-taiwan/>

²⁰ World: US Announces New Taiwan Weapons Package, Asia News Monitor (2023), Accessed 19 April 2021, <https://www.proquest.com/docview/2843883211?accountid=9867>.

If any change is warranted regarding current lines of effort, it is simply that as U.S. production ramps up, the U.S. and Taiwan should increase the pace of arms transfer. By blending classic foreign military sales methods with the PDA method, which has also been used for rapid capability deployment to the Ukraine, Taiwan should be able to secure a credible supply of munitions and sustainment capability, while also creating the demand signal U.S. companies need to ensure consistent flow of follow on deliveries.

Fuel is the second most important of the critical requirements, due to projected timelines as to when stores will be depleted, when operating under siege. Here, a unique opportunity has been created by the introduction of the transnational threat of climate change. Seeking to reduce carbon footprint, Taiwan is investing in additional liquid natural gas (LNG) terminals and generators, with the plan to move the country to a fifty-percent LNG-generated electricity grid by 2025.²¹ While Taiwan may have the honest intention of moving away from coal, and the pollutants that come from overleveraging it as a source of electricity, the government can again ‘securitize’ the issue, and slow down the decommissioning of coal plants, while also bringing on the LNG plants. This provides redundancy, and gives increased options as to how the U.S. and Taiwan can partner to build up strategic reserves before they become necessary.

Delivery of food is of the lowest priority, because shipping food would not be considered an act of war, but instead in line with humanitarian aid activities. Because of the way the Taiwanese agriculture system is structured, in that many farmers operate hobby-sized farms rather than a handful of large entities executing bulk strategies, and the general lack of arable land, there is little the U.S. can do to aide Taiwanese readiness in the realm of food security.

Once the blockade phase of the conflict has begun, the majority of resupply will have to occur via the seas. The safest option would be to travel the extra distance, and leverage partnerships with Australia as the initial point of theater entry for Taiwan-based goods, but if Japan has effectively controlled their area of operations, this would be a more convenient and efficient option. In either case, the logical course of action is to use either as the safe point of entry for large scale transport; bulk cargo ships in the case of grain and coal, and container ships for tactical gear, medical supplies, processed foods, etc.²²

From this point, a few assumptions have to be made. First, efforts are being made across other domains such as space, air, and cyber to disrupt or delay Chinese ISR capabilities in such that operational risk to any ship departing for Taiwan is within acceptable margins. Second, U.S. subs continue to control areas outside the Taiwan Strait; a reasonable assumption given that much of China’s naval capability will have

²¹ Manuel Widmann, Taiwan’s Energy Security: Liquefied Natural Gas, Renewables, and the EU, EIAS, Accessed 20 April 2024, <https://eias.org/publications/op-ed/taiwans-energy-security-liquefied-natural-gas-renewables-and-the-eu/>.

²² Engineers Post Team, 24 Different Types of Ships Explained, The Engineers Post, Accessed 21 April 2024, <https://www.theengineerspost.com/types-of-ships/>.

been destroyed during the initial conflict. If these two assumptions are true, then the U.S. Navy has invested in two key capabilities which should make ferrying goods, in smaller quantities, from Japan or Australia feasible.

In early April of 2024, the Navy received the completed thirteenth in a series of sixteen Amphibious Transport Docks from Ingalls shipbuilding division. The ship, the Richard McCool Jr is a member of the San Antonio-class, and it's designed for logistical support and expeditionary warfare.²³ These ships have a hauling capacity of approximately one hundred and twenty tons, which equates to just over the hauling capacity of a C-5.²⁴ While this may seem less than ideal given the volumes the modern world has become accustomed to when dealing with bulk carriers and container ships, it is a compromise that may become necessary when attempting to defeat A2AD weaponry.

The second, and more limited option began in 2015, and is called the Extremely Fast Transport or EPF system. These eight ships, much like the San Antonio class have been designed to support humanitarian assistance and disaster relief, while operating in austere or degraded ports.²⁵ The limitation with these are that they have not been designed to be open water vessels, and so they could really only feasibly be deployed from Japan. Additionally, whilst the San Antonio class has organic defensive capabilities, the Spearhead class does not. One way in which they greatly exceed the Amphibious Transport Docks is that they are designed to move up to six hundred and thirty-five tons.²⁶

One area in which the U.S. is lacking is in practicing tactics, and exercising capability. Oftentimes INDOPACOM exercises focus on the Taiwan Strait scenario, but they generally practice repelling the invasion. To truly be effective, it would be prudent to turn one of the tier one exercises into an evaluation of continued cyclical resupply. Answer the questions, "How quickly can a port crew in Australia or Japan move freight onto amphibious ships," and "how quickly can crews execute their trip, turn around, and do it again?" This would also give the crews the added benefit of having to practice their defensive tactics, and either validate or invalidate their effectiveness.

In the case of both vehicles, the advantage comes from the geography of Taiwan. The vast majority of the western portion of the island is relatively flat, but the island possesses a tall eastern spine. On the backside of those mountains, there is however a smaller, relatively accessible portion of the island where cities like Hualien and Suao exist. It is to these places that the EFP's and Dry docks would off load their tonnage

²³ Press Release: HII Delivers Amphibious Transport Dock Richard M. McCool Jr. (LPD 29) to U.S. Navy, Dow Jones Institutional News (2024), Accessed 20 April 2024, <https://www.proquest.com/docview/3037401674?accountid=9867>

²⁴ San Antonio Class Landing Platform Dock, *Naval Technology* (2020), Accessed 20 April 2024, <https://www.naval-technology.com/projects/lpd17/?cf-view>.

²⁵ 11th U.S. Navy Expeditionary Fast Transport, MENA Report (2015), Accessed 20 April 2024, <https://www.proquest.com/docview/1728158005>.

²⁶ Spearhead Class Expeditionary Fast Transport Vehicles, *Naval Technology* (2017), Accessed 20 April 2024, <https://www.naval-technology.com/projects/spearhead-class/?cf-view>.

whilst receiving some cover from the Taiwanese mountains. If done properly, combined with civilian capability, the people of Taiwan should receive all the assistance required to endure an extended campaign of denial.

Leveraging commercial capabilities is the final piece of the puzzle. Simply put, beyond just the aforementioned bulk and container ships, the capacity offered by enlisting commercial help dwarfs what the U.S. Navy and any partner national navies could offer. This course of action has the added benefit of clouding the theater picture for China and thus inducing a measure of risk in attacking any singular ship, for fear of international reprisal, without positive confirmation of the target. The nay-sayer will point to Chinese naval activities in the South China Sea, and how they harass private fishermen, but again, in this scenario, the PLAAN has been nearly entirely destroyed due to China's decision to engage the U.S. and Japan in a frontal assault.

In the end the U.S., Taiwan, and their allies have to be prepared not just to meet China in the Taiwan Strait or on the beachheads of Taiwan. They must be prepared to engage in a lasting contest of wills, because the ruling party of mainland China, the CCP, seems to have committed to a fight they cannot win conventionally, yet perhaps through persistence, and they see this as the only conceivable way of achieving their long term goal of reunification. Without implementation of certain mitigation strategies, they might not be wrong. It seems plausible that Taiwan could be reduced to darkness within a week and a half, that food runs out after six months while the U.S. policy makers debate how to send aid, and after continuous shelling with no possible recourse, that the people of Taiwan choose that a prosperous yet chained future within the Chinese structure is better than suffering.

The problem for China is that it will not work. The U.S. is already rapidly arming the nation, not just with the prestige weapons systems that make the papers, but also the ammunition to effectively use them. Taiwan has already realized its precarious situation regarding food security and taken the steps available to them to begin developing more long term resiliency. And, surprisingly enough, in the midst of two land wars in Asia, U.S. procurement officials had the foresight to invest modernization of amphibious capabilities early enough that they would be available not after years of conflict, but on day one. Put together, the combined effect of each of these mitigation strategies would force China to give up its pursuit, especially when combined with the normal sanctioning and isolating activities that the world levies upon an aggressor state.

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