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Implications of a Taiwan Contingency for the Security of Japan

Tetsuo Kotani

Introduction

In response to then-US Speaker of the House Nancy Pelosi's visit to Taipei in August 2022, China's People's Liberation Army (PLA) conducted a series of massive blockade exercises around Taiwan. The PLA designated several exercise zones around Taiwan and launched at least nine ballistic missiles, five of which fell into Japan's exclusive economic zones. The PLA also mobilized more than 100 fighters and bombers and more than 10 destroyers and frigates to exercise a blockade of Taiwan. China's first aircraft carrier, *Liaoning*, joined the exercise.[1]

The PLA exercises showed a possibility that Japan would be directly involved in a Taiwan contingency due to its geographical proximity. The Japan Institute of International Affairs (JIIA) conducted a war game to understand how a Taiwan contingency could affect Japan' security. The war game demonstrated that Japan would be attacked by the PLA due to the presence of US military in the island nation.[2]

This paper discusses how Japan would be involved in a Taiwan contingency and how Japan prepares such a scenario.

A War Game

The JIIA war game assumed a naval blockade by the PLA against Taiwan. In response, Japan and the United States decided to deploy naval assets near Taiwan. Then, the PLA launched cyber attacks against Japanese infrastructures, followed by ballistic missile attacks against US and Japanese military bases in Japan. The PLA then deployed naval and air assets in the East China Sea to take air and maritime superiorities. The allied forces continued to maintain their naval forces in the East China Sea to prevent the PLA from occupying some of the key Okinawa islands and in the east of Taiwan to maintain communication lines with Taiwan. Meanwhile, the PLA dominated the Taiwan Strait and started amphibious invasion of Taiwan. The US also deployed ground forces to Taiwan to support Taiwanese military's resistance.

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[1] China Power Team. "Tracking the Fourth Taiwan Strait Crisis" China Power. August 5, 2022. Updated November 8, 2023. Accessed November 23, 2023. https://chinapower.csis.org/tracking-the-fourth-taiwan-strait-crisis/

[2] A brief summary of the war game is available at https://www.jiia.or.jp/research-report/security-fy2022-04.html (only in Japanese).

Then the war became deadlocked.

PLA's ballistic missile attacks neutralized Japanese and US bases initially, while the allied forces rapidly recovered the damaged airfields and obtained access to the bases in the Philippines. Both the PLA and the allied forces lost most of surface combatant ships and fourth-generation aircraft, while maintaining fifth-generation fighters intact. The PLA lost most of its submarines, while the allied forces lost only a few submarines and continued land attack and sea denial by remaining submarine forces.

PLA's Capabilities

The war game showed the PLA would attack Japan by ballistic missiles first followed by naval and air operations to dominate the East China Sea and occupy key Japanese islands in a Taiwan contingency. The Pentagon estimates the PLA possesses 500 MRBMs (DF-21 and DF-17) with 300 launchers. The DF-21D gives the PLA to strike ships underway and the DF-17 is hypersonic glide vehicle capable possibly targeting at both enemy bases and fleets.[3] The PLA is estimated to enhance its capability to locate enemy fleets in the Pacific by using OTH radar, satellites, and drones.[4] AI analysis of satellite photos may also enable near real-time location identification.[5] The PLA also possesses the CJ- 20 long-range land-attack cruise missile launched from the H-6 bomber.[6]

The PLA is believed to enhance missile defense capabilities. Reportedly the PLA has deployed two S-400 systems and at least three early warning satellites in orbit.[7] China's homegrown HQ-9 surface-to-air missile, believed to be modeled after the Soviet-made S-300, is mobile and highly survivable, and is capable of dealing with aircraft and cruise missiles within 300

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[3] Office of the Secretary of Defense, Annual Report to Congress; Military and Security Developments Involving the People's Republic and China, October 2023, 66-67.

[4] Kelley Sayler, "Red Alert: The Growing Threat to U.S. Aircraft Carriers," Center for a New American Security, February 2016, https://www.cnas.org/publications/reports/red-alert-the-growing-threat-to-u-s-aircraft-carriers.

[5] Brian Wong, "AI and Satellite Imaging Make Aircraft Carriers Vulnerable," *Next Big Future*, August 22, 2017, https://www.nextbigfuture.com/2017/08/ai-and-satellite-imaging-make-aircraft-carriers-vulnerable.html.

[6] Ministry of Defense of Japan, Defense of Japan 2023, 61.

[7] Ibid., 62.

kilometers.[8]

The PLA has replaced old-generation Soviet-produced ships with mass produced indigenous naval ships and submarines while introducing new types of surface combatant ships. The PLA has introduced at least 8 new large stealth destroyers, or cruisers, Renhai-class (Type 055).[9] This new type of ships are believed to be equipped with vertical launch cells twice more than the latest Luyang III-class (Type-052D) destroyer (called China's Aegis destroyer). The Renhai-class will provide improved fleet air-defense and anti-ship attack capabilities to the PLA.[10] The PLA has commissioned its second (and the first indigenous) aircraft carrier Shandong in 2019, and is reportedly constructing a third aircraft carrier, Fujian, with an electromagnetic catapult system.[11] Those carriers are not considered as effective platforms vis-à-vis the US and other advanced navies due to their vulnerability, but they pose a grave threat to smaller states.[12] China is also expected to introduce unmanned surface vehicles (USVs) and unmanned underwater vehicles (UUVs), which will further enhance PLAN's asymmetric capabilities.[13]

The PLAN is producing more quieter Yuan-class diesel-electric air-independent-powered submarines and Shang-class nuclear-powered attack submarines. Those submarines are armed with anti-ship cruise missiles, wire-guided and wake-homing torpedoes—which is difficult decoy—, and advanced mines. China is expected to introduce a new type of nuclear-powered submarine with land-attack cruise missile.[14] While the PLA has been enhancing its ASW capabilities, but the Pentagon estimates the PLA's ASW capabilities in deep water is not sufficient yet.[15]

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[8] Charlie Gao, "China's HQ-9 vs. Russia's S-300 Air Defense System: What's the Difference?," *The National Interest*, November 10, 2018, https://nationalinterest.org/blog/buzz/chinas-hq-9-vs-russias-s-300-air-defense-system-whats-difference-35777.

[9] Ibid., 64.

[10] Ministry of Defense of Japan, Defense of Japan 2020, 64.

[11] Defense of Japan 2023, 64.

[12] Congressional Research Service, "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress," January 27, 2021, 16-17.

[13] Defense of Japan 2023, 64-65.

[14] Congressional Research Service, "China Naval Modernization," 9-10.

[15] Defense of Japan 2023, 65.

The PLA has introduced the Su-27 and Su-30 fighters from Russia as its fourth-generation modern fighters, as well as the Su-35 fighter, which is considered the newest fourth-generation fighter. It is also developing modern domestically produced fighters, including the J-11B fighter, which is said to have been copied from the Su-27 fighter, the J-16 fighter, which is said to have been copied from the Su-30 fighter, and the domestically produced J-10 fighter. The PLA also deploys J-20 fifth-generation fighters.[16] The PLA is increasing the size of H-6 bomber fleet, while introducing H-6U and IL-78M aerial refueling tankers and the KJ-500 and KJ-2000 early warning and control aircraft.[17] The PLA is rapidly developing a variety of domestic unmanned aerial vehicles (UAVs), including high-altitude, long-endurance (HALE) UAVs for reconnaissance as well as those capable of carrying missiles.[18]

Japan's Response

To deal with the growing threats from the PLA, Tokyo introduced the concept of a dynamic joint defense force in 2013. The dynamic joint defense force envisioned air and maritime superiority with active and regular intelligence, surveillance, and reconnaissance (ISR), standoff missiles, multi-mission frigates (FFMs), reinforced submarine fleet as well as the rapid deployment of amphibious troops, armored vehicles, air-defense and anti-ship missile launchers with hypersonic missiles for the defense of the southwestern islands. In addition, Tokyo decided to introduce the Aegis Ashore ground-based missile defense system to intercept North Korean ballistic missiles 24/7, while enabling Aegis-destroyers to provide fleet air-defense vis-à-vis the PLA.

Given the advancement in PLA's missile forces and capabilities in the new domain of cyber, space, and electromagnetic, Tokyo adopted the concept of multi-domain defense force in 2018, which no longer assumes superiority in air and sea, and instead seeks cross-domain operations. It also called for "comprehensive" air-defense to intercept various airborne threats and the conversion of the Izumo-class helicopter carrier into a light aircraft carrier for air-defense in the Pacific. Tokyo also decided to extend the range of standoff missiles to be launched from ground-based launchers as well as ships and aircraft.[19]

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[16] Defense of Japan 2023, 66-67.

[17] Ibid., 67

[18] Ibid.

[19] Tetsuo Kotani, "The Multi-Domain Defense Force: Assessment and Challenges," *JIIA Strategic Comments*, No. 6, December 28, 2018, http://www2.jiia.or.jp/en/article_page.php?id=15.

On December 16, 2022, the Japanese government adopted three national security documents: "National Security Strategy (NSS)," "National Defense Strategy (NDS)," and "Defense Buildup Program (DBP)."[20] In the strategic documents, China is regarded as the "greatest challenge" to Japan's security and the international order.

The key to the realization of the new strategy is an increase in defense spending. Japan's defense spending, which has been effectively kept at around 1 percent of GDP since the 1970s, is to be raised to 2 percent, and the Cabinet has approved a total defense budget of 43 trillion yen for the five years through FY2027, which is 1.6 times the size of the current medium-term defense force development plan. This will enable Japan to realize the existing dynamic joint defense and multi-domain defense concepts and upgrade its indigenous standoff missiles as a counterstrike capability, integrated air and defense missile defense, unmanned asset defense, and sustainability and resilience in preparation for the "new battles" of missile attacks, hybrid warfare, asymmetric attacks, and nuclear threats, as indicated in the NDS.

The counterstrike capability is intended to supplement the existing missile defense system, since it is difficult to respond only by introducing the integrated air and missile defense capabilities and the expansion of Aegis systems as China increases the quality and quantity of their missile capabilities. In other words, the counterstrike capability is positioned as part of a denial capability that neutralizes the enemy's attack.[21] Previously, the Japanese government explained that the standoff missiles were for the defense of Japanese remote islands, and it remains vague about against what targets it will use its counterstrike capability, but it is now believed that the counterstrike missiles would be used against fixed targets, such as enemy air and naval bases, as well as incoming enemy naval forces in order to prevent the opponent from gaining air and sea superiority.

Challenges for Japan

The introduction of counterstrike capability is critical to maintain air and maritime superiority. However, it will take several years to develop and acquire indigenous standoff capabilities,

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[20] The provisional translations of Japan's new National Security Strategy and National Defense Strategy are available at https://japan.kantei.go.jp/content/000120031.pdf; and https://japan.kantei.go.jp/content/000120033.pdf.

[21] Ken Jimbo, "Three Defense Documents: The Essence of Denial/Competitive Strategy to Overcome the Disadvantage against China (in Japanese)," *API Geoeconomics Report* No. 136, December 26, 2022, https://apinitiative.org/2022/12/26/42887/.

and it is necessary to carefully assess whether the development of hypersonic missiles, which the U.S. military is also struggling with, as well as the extension of the range of domestically produced anti-ship missiles, will go as planned. To mitigate this development risk, Japan will introduce foreign-made stand-off missiles such as JASSM, JSM, and Tomahawk cruise missile, which already have field experience. Meanwhile, the introduction of longer range strike capabilities to the US Army and Marine Corps could complement Japanese capabilities in the near future. But it requires enhanced command and control corrdination between the two militaries.

Resource allocation among various pressing missions is also a big challenge. The conversion of the Izumo-class destroyers would sacrifice their ASW capability, for instance. Moreover, the lack of manpower, resulting from an aging population is a grave concern for the future of Japan's defense planning, given the rapid shipbuilding of the PLAN. The introduction of FFMs, which can be operated by fewer crews and designed for multi-crew operation, is an answer to the resource allocation challenge and the lack of manpower, but possible reduction of fire power would be a problem.