

Lessons from the Russian-Ukrainian Conflict: Weapons Can Wait, But Not Ammunitions

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As the conflict between Russia and Ukraine saw its first anniversary, the situation was a stalemate, and the focus shifted from confrontations of tanks and aircraft to ammunition attrition and replenishment. Whether Ukraine can obtain enough ammunition to hold the front before the arrival of advanced Western tanks has become the key to turning the tide of war and recovering its lost territory. At the Munich Security Conference on February 18, 2023, Ukrainian Foreign Minister Dmytro I. Kuleba expressed that the country's most urgent needs were "ammunition, artillery pieces, and tanks." The Ukrainian army needs 200,000 artillery rounds and

missiles every week, while the supply of ammunition from European countries and the US just could not keep up.¹ Yevgeny Prigozhin, the founder of the Wagner Group, a Russian mercenary organization, told the media on February 22 that Wagner combatants died in an "artillery famine," accusing Russian Defense Minister Sergei Shoigu and Chief of Staff Valery Gerasimov of "treason" for refusing to provide ammunition to Wagner, and called on the Russians to pressure the regular army to share more ammunition with his units.² Jens Stoltenberg, Secretary General of the North Atlantic Treaty Organization (NATO), said the war has become a "logistical competition."³

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1. Haley Britzky and Oren Liebermann, "Ukraine Is Burning Through Ammunition Faster Than The US and NATO Can Produce It. Inside The Pentagon's Plan to Close The Gap," *CNN*, February 17, 2023, <https://edition.cnn.com/2023/02/17/politics/us-weapons-factories-ukraine-ammunition/index.html>.
 2. "Wagner Official Releases Photos of Soldiers Killed in Action, Accuses Russian Army of Failing to Provide Ammunition," *Central News Agency*, February 22, 2023, <https://www.cna.com.tw/news/aopl/202302220404.aspx>.
 3. "Sufficient Ammunition and Tanks from the West are Critical for Ukraine to Recover Lost Land," *Central News Agency*, February 20, 2023, <https://www.cna.com.tw/news/aopl/202302200025.aspx>.

The Russia-Ukraine theater is different from Taiwan's island environment in terms of ammunition supply

The main theater of the Russian-Ukrainian conflict is in the sheer Eastern European continent, where both sides rely on the railroad and highway networks for logistic operations on the premise that neither has definite air superiority. Due to the multi-directional nature of the road network, supply courses are flexible and changeable to avoid enemy attacks, while fixed depots on open terrains are easy targets for the enemy. Thanks to their familiarity with the environment and flexible, agile maneuvering, the Ukrainians have obvious advantages over the Russians in terms of the efficiency of ammunition replenishment.

However, Taiwan's island geographic environment significantly differs from the Russian-Ukrainian conflict theater. The interweaving of mountains, hills, streams, and plains in a relatively limited area combined with a high degree of urbanization creates a complex and varied scenario. Taiwan's dense road network provides flexibility and agility in the arrangement of supply routes, and the geographic environment also has

the advantage of dispersed and secluded ammunition storage.

However, Ukraine and Taiwan face a completely different situation regarding arms supply from abroad. Since most of Ukraine's military facilities may not be able to operate properly due to the damage caused by Russian attacks, it mostly depends on ammunition support from Western allies. Ukraine has a long land border with its neighbors, and most of the international support is delivered through the road network from the western border. As the supply distribution centers are located outside the country near the border, their security can be ensured. In contrast, Taiwan is surrounded by sea and has no land connection with neighboring countries; the risk of military and civilian supplies, weapons, and ammunition delivered from overseas is relatively high.

Taiwan should strengthen its defense industry and construct a flexible ammunition stock capacity

While it is important to increase ammunition reserves, the battlefield pressure and risk will grow as consumption increases with limited storage capacity and belated support from abroad if a war breaks out. Although

Taiwan can produce weapons and ammunition, the capacity is still limited, and its ability to replenish battlefield attrition is not without doubt. Today, Taiwan’s defense industry should not only focus on the key technologies related to the development of missiles and their platforms but also on expanding the manufacturing capacity of conventional weapons and ammunition. As Taiwan’s precision metal processing industry and the Defense Ministry’s factories already possess mature technology, the government should inventory civilian enterprises with suitable production capabilities and plan for a peacetime/wartime system transition mechanism. If an emergency demand arises, the private sector equipment and technology can be effectively utilized for ammunition production. Looking back at the video footage from the Sino-Japanese War, the machinery in the Chongqing mountain caves continuously operated during the Japanese air raids. Similarly, Taiwan’s ammunition factories can also take advantage of hill tunnels for higher security and invisibility to improve the safety and reliability of ammunition supply to maintain the sustainability and resiliency of war logistics.

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