



# Countering North Korea's Growing Drone Threat

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*By Liang Tuang Nah*

### SYNOPSIS

*North Korea's potential replication of Russian and Ukrainian drones poses acute threats to South Korea and Japan, necessitating urgent adoption of cost-effective countermeasures to safeguard military assets and civilian infrastructure.*

### COMMENTARY

As Russia's war in Ukraine approaches its fourth year, an urgent lesson for South Korea and Japan is the need to prepare for the likelihood that North Korea will adopt drone warfare in a conflict.

Pyongyang, aligned with Moscow, is almost certainly learning from Russia's extensive use of drones and from Ukraine's wartime innovations. It is reasonable to expect that North Korea will replicate or adapt these systems in the case of a war with South Korea and Japan. Given the affordability and destructiveness of drones, Seoul and Tokyo would be wise to adopt robust counter-drone measures should hostilities erupt.

### Russian Drones North Korea Might Replicate

North Korea has a long history of reverse-engineering Soviet and Russian weapons, and it is likely to copy the most capable drones in Moscow's arsenal.

The [Shahed-136](#), known in Russia as the [Geran-2](#), is a one-way attack drone that operates like a mini cruise missile. It carries a warhead of [50 to 90](#) kilograms, travels at about 185 kilometres per hour, and has a [range](#) of 650 to 1,500 kilometres.

While it cannot penetrate hardened military facilities, it can devastate civilian infrastructure such as schools, hospitals, and power stations. Its range encompasses

all of South Korea and major Japanese cities, including Tokyo, Osaka, and Nagoya. At US\$30,000-US\$80,000 each, it is affordable for mass deployment.

Another system that North Korea could replicate is the Zala [Lancet](#) loitering munition. Slower and shorter-ranged than the Shahed, the Lancet is designed to strike vehicles, artillery, and radars with precision along the front lines.

Its small three-kilogram warhead and lightweight twelve-kilogram frame make it portable and easy to launch from simple catapults. At about [US\\$35,000](#) each, Lancets are inexpensive yet effective, and in the hands of North Korea's People's Army, they could be used to target patrols and defensive positions along the DMZ.

### **Ukrainian Drone Capabilities North Korea could Emulate**

Moscow's sharing of Ukrainian drone wreckage also means that Pyongyang could replicate drone designs arising out of Ukraine's wartime economy. These drones are not overly advanced, but they are effective and within North Korea's manufacturing capabilities.

First Person View drones (FPV), adapted from commercial technology, are low-cost, short-range, and highly effective against personnel and vehicles. In Ukraine, they have substituted for artillery shells, inflicting heavy losses on Russian forces. North Korea could use them to restrict South Korean troop movements and create "no-go" zones.

More sophisticated systems include the [UJ-26 Bober](#), a one-way attack (OWA) drone with an 800-kilometre range, a ten to fifteen-kilogram armour-piercing warhead, and a top speed of [200 kilometres per hour](#).

At US\$95,000, it is relatively affordable and has been used successfully in Crimea to destroy radars, air defence systems, and even a parked fighter jet. If North Korea were to produce equivalents, it could strike both civilian and military targets in South Korea and Japan.

Even more lethal are missile drones such as Ukraine's [Peklo](#), which are essentially jet-powered mini-cruise missiles. The Peklo carries a fifty-kilogram warhead, travels at 700 kilometres per hour, and has a range of 700 kilometres. It is guided by inertial navigation and GPS, [flies low to evade radar](#), and costs less than US\$200,000.

Ukraine has used it effectively against [Russian command posts](#). If North Korea were to adopt such systems, it could attack targets in South Korea and western Japan with cheap, fast, low-flying drones that existing peacetime defences would struggle to intercept.

### **Drone Defence is Essential**

Given Pyongyang's potential to deploy drones cheaply and at scale, South Korea and Japan must adopt layered defences. At the tactical level, soldiers and vehicles should be equipped with signal [jammers](#) to disrupt drone control links.

Troops should be issued shotguns or [fragmenting ammunition](#) to increase the chances of shooting down drones. New doctrine, tactics, and training should be developed for military and police forces, and civilians should be educated on how to report suspicious drones and to evade them.

At the district level, nets and barriers could be deployed along transport routes and facilities to [entangle](#) FPV drones. Larger drones such as the Shahed, Bober, or Peklo require more robust defences.

Cheap solutions include [machine guns](#) mounted on light trucks, [propeller aircraft](#) or helicopters, and self-propelled anti-aircraft guns (SPAAGs).

SPAAGs, with their radar-guided rapid-fire cannons, are particularly [cost-effective](#) against fast, low-flying drones compared with missiles. Both Seoul and Tokyo should invest in producing or maintaining more of them.

At the national level, mass production of interceptor drones such as the [Sting](#) or [Octopus-100](#) should be pursued. These interceptors are [affordable](#), scalable through [3D printing](#), and [effective](#) against Shahed-type drones.

Acoustic sensor networks, similar to Ukraine's "[Sky Fortress](#)", should also be looked into. With 14,000 sensors costing about US\$9.8 million in total, such a system is affordable, unjammable, and effective at detecting low-flying drones. Ukraine has achieved interception rates of over [95 per cent](#) in some attacks using this system, and South Korea and Japan would benefit greatly from adopting it.

## Conclusion

Even without certainty that North Korea will field these drones, preparations to counter their use would be prudent. Investment in jammers, SPAAGs, interceptor drones, and acoustic detection systems is essential – their affordability and effectiveness justify their adoption. It is better to have and not need than to need and not have.

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