

## Background: North Korea's Military and Arms Industry

Markus Bayer

North Korea is often seen as a highly militarised country. Gause (2006), for instance, argues that the country under Kim Il-Sung (head of state 1948–1994) represented a unique combination of a one-man-dictatorship and a one-party state. In contrast to his father, who considered the Workers' Party of Korea (WPK) to be the central means for maintaining his power, Kim Jong Il (head of state 1994–2011) increasingly trusted the armed forces of the country. In 2009, he, therefore, announced his "military first" (*sŏngun chŏngch'i*) policy, giving military build-up top priority. According to Bermudez (2001), over the past 50 years, North Korea has undoubtedly become the most heavily militarised country on earth. Similarly, Youngjun (2019) referred to the country as a "garrison state". Yet, these authors did not provide an empirical, comparative analysis.

The Global Militarisation Index (GMI) makes such an empirical comparison possible. BICC's GMI approach is based on a data-based analysis of the parameters of military expenditure, personnel and heavy weapons, which allows the militarisation of over 150 states to be presented and compared each year. North Korea is usually not included in the GMI due to unreliable or missing data. In spite of this, we have calculated an estimate for 2022 based on the available data (Bayer & Rohleder, 2022): In this, the country takes the first position in the global ranking. Considering all caveats regarding the data situation, this calculation empirically confirms the prevailing assessment of North Korea's militarisation. In this fact sheet, we will provide some additional background information on North Korea's armed forces, the country's defence sector and its arms exports.

### Structure of the Armed Forces

The Korean People's Army (KPA) is divided into its Army, Air Force, Navy and the so-called Strategic Forces. The latter are armed with ballistic missiles that can be equipped with a nuclear warhead. According to Article 102 of North Korea's Constitution, the Chairman of the National Defence Commission is the supreme commander of the state's entire armed forces. At the time of writing (October 2022), the number of active soldiers in the KPA is 1.28 million, of whom the majority (1.1 million) serve in the army.<sup>1</sup> In 2020, there were 49.7 active armed forces per 1,000 inhabitants. There is also a reserve of approx. 600,000 soldiers. North Korea, besides China and the United States, is thus one of only three countries that maintain armed forces with more than one million soldiers in

---

<sup>1</sup> Data on the armed forces or its weapons systems are based on the *Military Balance* of IISS or the SIPRI Arms Transfers Database unless otherwise stated.

peacetime. To achieve this high number, North Korea has a system of conscription. All men between the ages of 17 and 30 must enlist for military service lasting between 3 and 12 years. After this military service, they have to enlist for part-time additional reserve service until they are 40 years old. Thereafter, until the age of 60, they must serve as Worker-Peasant Red Guards. These are under the control of the army and mostly provide logistical support.

### Equipment of the Armed Forces

With more than one million soldiers and compared to the overall population, the **army** is huge. The number of heavy weapons in the country's arsenals is equally large. According to the Military Balance published by the International Institute for Strategic Studies (IISS), the army has some 3,500 battle tanks. These are said to be tanks of various types: Tanks of Soviet production, such as the T-34, T-54, T-55 and T-62, tanks of Chinese origin, such as the Type 59, as well as nationally produced types, such as the *Chonma-ho* or *Songun-ho*. It is said that North Korea produced more than 2,000 of the latter alone (see [National Arms Industry](#)). The total number may, therefore, be even higher. Between 1967 and 1974, 1,000 T-54s were delivered from the former Soviet Union, between 1972 and 1982 1,000 T-55s, and between 1971 and 1975 another 550 T-62s. Already during the Korean War (1950 to 1953), the country purchased 150 T-34-85s. There are rumours that these vehicles, now over sixty years old, are now returned to Russia to be used in parades. With regard to the remaining tanks, it is unclear what condition these vehicles, some of which are quite old, are in or exactly which types they are, as North Korea began modifying or rebuilding imported systems at an early stage. While the newer *Songun-ho* tanks in particular may still have some combat value, the other systems imported from the Soviet Union must be considered outdated. Besides these, the KPA has an impressive number of 2,500 armoured personnel carriers. However, these are types such as BTR-40, 50 and 60 or even BTR-152, which date from the 1950s and 1960s. Yet, the KPA has only 32 BTR-80A armoured personnel carriers. As concerns artillery, the KPA also has impressive numbers of systems, most of which, however, must be considered outdated.

The **air force**, which is quite large with 110,000 soldiers, is, like the army, equipped with mostly obsolete aircraft from former Soviet production. With 401 aircraft, the MIG-15 still forms the backbone of the air force. These interceptors were introduced in the Soviet Union in 1947 and used by North Korea from 1949 onwards. Today, the MIG-15 is only in service in a few countries. The same applies to the MIG-17, of which the North Korean Air Force has 107 in service. These were delivered from the Soviet Union as early as 1958–1960 and were probably already used. The fleet of 100 twin-engine MIG-19s, which can be used as interceptors and fighter-bombers, comes partly from the former Soviet Union, which gave the country 20 used aircraft as military aid between 1966 and 1967, and partly from Chinese production. The latter built the MIG-19 under licence as F-6 and J-6 respectively and delivered 100 of these aircraft to North Korea between 1986 and 1988. In

addition to these, the air force uses 120 MiG-21s as interceptors. A total of 109 of these aircraft were imported from the Soviet Union between 1966 and 1974; 34 more of the MiG-21bis design were imported used from Azerbaijan in 1998 and 1999. The KPA also uses about 60 MiG-23s.

Only the 17 MiG-29 interceptors in service or the 36 Su-25 ground attack aircraft—both of Soviet production—can be considered somewhat advanced. Most of these aircraft were imported shortly before the end of the Soviet Union. Three MiG-29S were delivered as kits between 1990 and 1992 and assembled in North Korea. The status of 30 F-7A/J-7s delivered by China between 1989 and 1991 is unclear.

North Korea's Air Force also includes, in addition to Mi-24D/Mi-25 attack helicopters and Mi-8MT/Mi-17 transport helicopters, 86 US-American *Hughes-500*Ds and one MD300, which were illegally imported via the Federal Republic of Germany in 1983 and 1984 in a US \$40 million deal. The MD 500 is a light reconnaissance and transport helicopter, but it can also be armed. Since South Korea also uses the same models, it can be assumed that North Korea originally acquired the helicopters to conduct special operations behind enemy lines. Since the supply of spare parts is difficult, the helicopters were initially used only very sparingly. Single helicopters kept surfacing, such as at the Wonsan Air Show 2016, often armed with anti-tank guided missiles.

With only 60,000 soldiers, North Korea's **Navy** is significantly smaller than the other branches of the armed forces. With two *Najin*-class frigates, it has very limited capacity for high-seas operations and is designed more for operations near the coast (brown-water navy). These two *Najin*-class ships, which bear the bow numbers F-591 and F-631, serve as flagships of the East (Sea of Japan) and West (Yellow Sea) fleets, respectively. Both are only partially capable of using modern guided missiles for air and sea target engagement and are considered obsolete. The rest of the two fleets consists of 71 submarines of different types. Among them is the "*Yongung*", most likely a diesel-powered ballistic missile submarine from local production. The *Yongung* launched a ballistic missile while submerged for the first time in 2016. This missile could also be armed with nuclear warheads. In addition, 20 *Romeo*-class diesel-electric submarines, imported from China or produced under licence by North Korea between 1973 and 1995, are in naval service.

Another 40 *Sang-o*-class boats and around 10 *Yugo*-class boats are mainly used for espionage.

As North Korea is a nuclear power, we will briefly discuss the so-called **strategic forces** for the sake of completeness.<sup>2</sup> According to the latest estimates, the country has collected fissile material for producing 40 to 50 nuclear warheads and has probably so far produced

---

<sup>2</sup> However, these do not play a role in the calculation of the GMI, as only conventional heavy weapons are included here.

10 to 20 warheads for use with medium-range ballistic missiles (Kristensen & Korda, 2021). At the time of writing, North Korea has various intercontinental ballistic missiles under development, such as the *Hwasong-14*, 15 and 17, which are supposed to be able to carry nuclear warheads over a distance of 5,500 to 15,000 km. So far, however, this development has not been completed, and nuclear warheads have not been integrated into these systems. Similarly, the strategic forces possess several medium-range ballistic missiles (range 3,000–5,500 km), such as the *Hwasong-10* and 12. Here, too, it is unclear how far the process of integrating nuclear warheads has progressed. The more than 69 short-range ballistic missiles of the types *Hwasong 5*, 6, 8 or KN-23 in the arsenals could also be used as a delivery system.

### **National Arms Industry**

After the end of the Korean War in 1953, which temporarily brought North Korea to the brink of defeat, the arsenals of the KPA were largely depleted. The country, therefore, began to build up its own arms industry, which was mainly located underground in the north, in Jagan province, to protect it from attacks. At the time of writing, North Korea's arms industry consists of about 180 factories with more than 35,000 employees (Cho, 2020). All arms factories are state-owned and under the control of the Party. Workers in the factories receive food rations allocated by the state as remuneration for their work. Even though this system could no longer be maintained nationwide, it is still widespread in the prioritised defence sector. Against this background, comparing individual parameters such as national military expenditures with other countries is highly problematic or has only little informative value.

To start with, the North Korean arms industry began to produce small arms and light weapons and ammunition. As the arms race between North and South Korea picked up speed, artillery, battle tanks and armoured vehicles, some of which were supplied by China and the Soviet Union, were initially assembled in these factories and later reverse-engineered to develop and produce systems there themselves. An estimated 1,200 *Chonma-ho* tanks—derivatives of the Soviet T-62—were produced between 1980 and 2013 and an estimated 900 *Songun-ho* tanks between 2005 and 2012 (Cho, 2020). In particular, more modern variants of the *Songun-ho* increasingly feature characteristics of the Soviet T-72, such as reactive armour, laser rangefinders and 125mm cannons. North Korean engineers probably obtained models of the tank, which was never delivered by the Soviet Union, from Iran, which captured some during the Iran–Iraq War. It seems that North Korea received these systems in return for its support with 150 T-62s. However, as the new millennium began, despite advances in development and production, it became increasingly clear that the country could not win the arms race against South Korea (Cho, 2020). Consequently, on 10 January 2003, the country withdrew from the Nuclear Non-Proliferation Treaty, which it had joined in 1985. Since then, the country has increasingly focused on developing and producing nuclear weapons and delivery systems. Especially

since UN Security Council Resolutions 1718 and 2270, which banned the delivery/export of all heavy weapons as well as small arms and light weapons listed in the UN Register of Conventional Arms (UNROCA) to North Korea from October 2006 and February 2016 respectively, the country had to rely on its national production. However, after decades of isolation and due to the country's economic situation, North Korea is in no position to develop modern systems or produce them in sufficient quantities.

### **Arms Exports**

In the past, North Korea has repeatedly exported weapons systems, especially artillery systems and (ballistic) missiles. The country has been cultivating closer relations with Iran for some time now. During the Iran–Iraq war, for example, North Korea supplied Iran with 150 T-62 tanks, 200 Type 63 multiple rocket launchers and 100 type BM-21 calibre 122mm, and 4,000 9M14 *Malyutka* anti-tank missiles. Between 2002 and 2004, the Islamic Republic also received 31 high-speed boats. BM-21 *Grad* 122mm multiple rocket launchers were delivered to Egypt between 1984 and 1987. Since North Korea often replicated or modified weapons systems, it is not clear whether the country was merely acting as an intermediary or whether the weapons were developed or manufactured nationally. The same applies to the 160 *Hwasong-6* missiles exported to Syria between 1991 and 2000. These could have been originally bought from the Soviet Union, or they could have been modelled on them and manufactured nationally. This is clearer in the case of the *Hwasong-7*, which is developed by North Korea and was later built under licence in Syria between 2000 and 2009 (presumably 100 units). Besides these, 50 BM-21 *Grad* 122mm multiple rocket launchers were delivered to Syria in the early 1980s. Ethiopia in turn, received ten YW-531/Type-63 armoured personnel carriers from North Korea in 2000. In the last 20 years, however, exports of entire weapons systems have decreased significantly. This may be because states such as Iran have since then built up their arms industries, and North Korea is increasingly assuming the role of a pariah state. Nevertheless, North Korea's list of recipients after 2000, also includes non-state actors. In 2014, for example, 50 *Fagot* anti-tank missiles were delivered to recipients in the Palestinian territories, presumably via intermediaries.

Most recently, in the wake of the high Russian losses in the war against Ukraine and given Western sanctions, there has been speculation that North Korea and Russia could cooperate more closely as regards the military. North Korea could, for instance, supply Russia with ammunition and spare parts for old Soviet weapons and, in return, Russia could support North Korea in its nuclear programme.

## Literature

- Bayer, M. & P. Rohleder (2022). *Global Militarisation Index 2022*. BICC: Bonn.
- Bermudez, J. S. (2001). *Shield of the Great Leader: The armed forces of North Korea*. Allen and Unwin: St. Leonards.
- Cho, N. (2020). North Korea's defense industry, Hartley. In Keith and Jean Belin (Eds.): *The Economics of the globale Defence Economics* (pp. 571-594), Routledge: London and New York.
- Gause, Ken E. (2006): *North Korean Civil-Military Trends: Military-First Politics to a Point*, US Army War College Press: New York.
- Kristensen, H. M. & M. Korda (2021). North Korean nuclear weapons 2021, *Bulletin of the Atomic Scientists*, 77 (4), 222-236.
- Youngjun, K. (2019). *Origins of the North Korean Garrison State. The People's Army and the Korean War*, Routledge: London and New York.