

IRAN & NORTH KOREA: NUCLEAR
PROLIFERATION PARTNERS

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Iran & North Korea- Nuclear Proliferation Partners

Iran and North Korea are the foremost destabilizing actors in their regions and rank among the world’s most repressive regimes. The threats posed by Iran and North Korea to the U.S. and its allies are broad and multifaceted. The Iranian-North Korean threat is compounded by the two nations’ cooperation, especially in the realm of nuclear and ballistic missile development.

North Korea is notorious for its extensive and illicit export of ballistic missiles and related technology.

The threats posed by Iran and North Korea to the U.S. and its allies are broad and multifaceted, encompassing weapons of mass destruction (WMD) proliferation and delivery, cybersecurity, transnational crime, human rights violations, and destabilizing regional activities. The Iranian-North Korean threat is compounded by the two nations’ decades-long record of cooperation, especially in the realm of nuclear and ballistic missile development. Knowledge and technology flow both ways between these partners, enabling each to refine and advance their illicit proliferation activities.

The nuclear deal between Iran and the P5+1 has provided an impetus for Iran to further deepen its relationship with the DPRK. The Joint Comprehensive Plan of Action (JCPOA) rescued Iran’s economy from the brink of collapse, providing it with a massive cash infusion, granting it access to more than \$100 billion in previously frozen assets, and opening the Iranian market to foreign trade and investment. Cash-starved and isolated North Korea stands as a likely beneficiary of

Iran's sanctions relief windfall and provides Iran a potential avenue to carry out proscribed nuclear activities while it is subject to the JCPOA's restrictions.

DPRK-Iranian Ballistic Missile Cooperation



Iran's Shahab 3 missile, designed after North Korea's No Dong missile.

Iran and North Korea have forged a strategic partnership that dates back to the 1979 founding of the Islamic Republic. Buttressed by a shared antipathy to the U.S. and a mutual need to weather international isolation, the two nations each brought something to the table that the other desperately needed: from Iran came oil and from North Korea came military expertise and hardware.

Iran's nuclear and ballistic missile programs have long depended on external assistance from other states. North Korea, a country notorious for its extensive illicit export of ballistic missiles and related technology, has proven a particularly valuable partner. According to the 2017 Worldwide Threat Assessment of the US Intelligence Community, **North Korea's nuclear weapons and missile programs will continue to pose a serious threat to US interests and to the security environment in East Asia in 2017. North Korea's export of ballistic missiles and associated materials to several countries, including Iran and Syria ... illustrate its willingness to proliferate dangerous technologies.** Taking advantage of North Korea's illicit export regime, **Iran has developed a close working relationship with North Korea on many ballistic missile programs," providing Iran "a qualitative increase in [ballistic missile] capabilities" and advancing Iran toward its "goal of self-sufficiency in the production of medium-range ballistic missiles."**

Iran's role as North Korea's principal Middle Eastern ally was solidified following the breakdown of the DPRK's relationship with Iraq in 1982. This development opened the door for Iran to begin acquiring ballistic missiles from North Korea in the mid-1980s during the Iran-Iraq War, **when it began purchasing 300 km-range Scud-Bs (Shahab-1) to fulfill its wartime needs.** U.S. sources estimated that by 1987 **North Korea and China were supplying roughly 70 percent of Iranian arms imports.**

Iranian-North Korean strategic ties were further strengthened by the breakup of the Soviet Union, which had been the primary provider of subsidized oil to the DPRK. Iran expanded its oil exports to North Korea in exchange for technological assistance for its missile and nuclear programs. Encouraged by the success of Scud-B attacks during the Iran-Iraq War, Iran collaborated with North Korea throughout the 1990s in the development and procurement of increasingly longer-range ballistic missiles.

In 1991, Pyongyang introduced the 500 km-range Scud-C (Shahab-2), which it sold to several Middle Eastern countries, including Iran and Syria. North Korea's sale of Scud-Cs to

Iran was arranged during a **November 1990 visit to Tehran by North Korea's defense minister**, where he met with senior Iranian officials including the head of the Islamic Revolutionary Guard Corps (IRGC) Mohsen Rezai, and the Ayatollah's son, Ahmed Khomeini. In addition to agreeing on the purchase of Scud-Cs, the two sides agreed to convert a missile maintenance facility in eastern Iran into a production facility. In May 1991, Iran successfully tested a Scud-C in Qom, signifying the increasing military cooperation between the two nations.

In 1993, the U.S. intelligence community warned that Iran, "**one of North Korea's best customers for ballistic missiles and related technology, is likely to be one of the first recipients of the 1,000 km Nodong. By the end of this decade [1990s], Iran could be able to assemble short-range (Scud B and Scud C) and medium-range No Dong ballistic missiles.**"

In May 1993, North Korea achieved a major breakthrough when it completed development and carried out the first successful test-launches of the Nodong-1, which it was negotiating to export to Iran in exchange for increased oil shipments. A 21-member Iranian delegation comprised of IRGC officials and Iranian defense industry representatives were on hand to observe the tests and train in the missile's use. At Iran's urging, North Korea expanded the Nodong's range to 1,300 km, bringing all of Israel within Iran's striking distance once the missile was fully operational. According to **Israeli intelligence estimates**, North Korea began transferring Nodong (Shahab-3) missiles to Iran by 1995.



North Korea displaying what is believed to be its advanced BM-25 advanced missile at a military parade in October 2010. The North reportedly sold to Iran 19 of these missiles, which could carry a nuclear warhead.

North Korea's ballistic missile assistance to Iran was mutually beneficial, as Iran would frequently share sensitive data from their test-launches with the North Koreans, enabling the North Koreans to adjust and advance their program further. **North Korea, in tandem with**

China, sent a joint team of technicians to Iran in 1997 to help Iran operationalize its domestic ballistic missile production capabilities and improve the range of its missiles. Iranian officials were and continue to be a frequent presence at North Korean ballistic missile test-launches.

According to the **Congressional Research Service (CRS)**, "In the late 2000s, the [Intelligence Community] IC continued to assess that North Korean cooperation with Iran's ballistic missile programs was ongoing and significant." The CRS concluded that, "Iran has likely exceeded North Korea's ability to develop, test, and build ballistic missiles. But Tehran may, to some extent, still rely on Pyongyang for certain materials for producing Iranian ballistic missiles, Iran's claims to the contrary notwithstanding."

Corroborating the persistent missile development cooperation between the two countries, North Korea displayed a “**Nodong-variant... which possesses visible similarities to Iran’s Ghadr-1,**” during an October 2010 parade. That same year, WikiLeaks released a secret American intelligence cable from February 2010 that concluded Iran had **obtained from North Korea a cache of 19 advanced BM-25 missiles,** which possess a range of up to 2,000 miles. According to reports, the BM-25 “**could carry a nuclear warhead,**” giving Iran “for the first time...the capacity to strike at capitals in Western Europe or easily reach Moscow.”

Later, in May 2011, Reuters obtained a confidential UN report that **stated,** “Prohibited ballistic missile-related items are suspected to have been transferred between [North Korea] and the Islamic Republic of Iran on regular scheduled flights of Air Koryo and Iran Air.” Such trade clearly violated U.N. sanctions that prohibited Iran at the time from “**any activity related to ballistic missiles capable of delivering nuclear weapons,**” and North Korea from exporting nuclear and missile technology.

In December 2012, **North Korea completed its first successful launch of a long-range ballistic missile,** confirming American fears that the so-called hermit kingdom had finally acquired the technology to pose a threat to American shores. Critically, according to Asian policy experts, “**North Korea’s sudden success on December 12th was not the result of good fortune but rather was the fruition of its increasing instructional cooperation with Iran.**”

In 2013, the Washington Free Beacon reported that **Iranian missile technicians from the Shahid Hemmat Industrial Group traveled to Pyongyang to work on an 80-ton rocket booster.** According to the report, “The booster is believed by U.S. intelligence agencies to be intended for a new long-range missile or space launch vehicle that could be used to carry nuclear warheads, and could be exported to Iran in the future.” Were Iran to acquire this technology, its ballistic missile program would be transformed from a regional into a global threat.

Since the JCPOA



October 2015 Iranian test launch of the precision-guided medium-range ballistic missile, Emad. (Fars News)

U.N. Security Council Resolution 2231, the resolution endorsing the JCPOA, relaxed restrictions on Iran’s ballistic-missile program by replacing strong language that said Iran “shall not” engage in ballistic-missile activities with weaker language that merely “calls upon” Iran not to test any ballistic missiles “designed to be nuclear capable.”

Iran has taken full advantage of the watered-down security council resolution, test-launching at least **16 ballistic missiles** since the JCPOA was reached in July 2015. Iran’s missile tests demonstrate how it has benefitted from its cooperation with North Korea and signal Iran’s clear intention to upgrade the range, accuracy and lethality of its ballistic missile arsenal. Similarly, **North Korea’s ballistic missile tests thus**

far in 2017 show signs of incorporated Iranian technological improvements, highlighting the mutually beneficial nature of Iranian-North Korean ballistic missile cooperation.

In October 2015, Iran **successfully test-launched the Emad**, its first precision-guided medium-range ballistic missile. The Emad is a variant of the Nodong/Shahab-3 with an enhanced range of 1700 km. It is accurate within 500 meters of its designated target. Iran's successful test-launch of the Emad represents a leap forward in terms of Iran's strategic threat to the Middle East and Central Asia, as Iran now has a greater ability to target military and economic assets and population centers.



Ghadr-1 ballistic missile on display during a 2009 Iranian military parade (Atta Kenare/AFP/Getty Images).

In November 2015, Iran reportedly tested the Ghadr-1, another variant of the Nodong/Shahab-3 with a range of 1900 km. Iran conducted test-launches of the Shahab-3 in March and December of 2017.

Perhaps most alarmingly, Iran carried out test-launches of a ballistic missile known as the Khorramshahr in July 2016 and January 2017. The Khorramshahr is the name given domestically to the BM-25, **“which is the export name that North Korea gave the variant of the Musudan that it sold to Iran,”** according to nonproliferation expert Jeffrey Lewis. While the Musudan, which is the most advanced missile North Korea has tested to date, has a range of 4,000 km, the modified Khorramshahr/BM-25 has a range of 2500 km, bringing Europe into Iran's ballistic missile range.

In May 2017, **Iran conducted a failed cruise missile test launch from a Ghadir-class “midget” submarine** in the strategically vital Strait of Hormuz. The Iranian submarine's design closely mirrored that of North Korea's *Yono*-class, prompting speculation that the Tehran-Pyongyang military collaboration remains vibrant. The *Yono/Ghadir*-class submarines are virtually undetectable and **were used by North Korea to sink a South Korean ship in 2010.** Should Iran carry out a successful test in the future, its abilities to confront U.S. ships in the Persian Gulf will be greatly strengthened.

As noted, technology and knowledge flow both ways between Iran and the DPRK. Many recent North Korean ballistic missile tests have featured precision technology developed by Iran. According to **Israeli defense analyst Tal Inbar**, “Iran purchased North Korea's technical know-how on ballistic missile production, upgraded the DPRK missiles' forward section, and distributed these advancements back to North Korea. The similarities between North Korean missiles launched during recent tests and Iranian technology suggests that Iran is a possible contributor to North Korea's nuclear buildup, rather than a mere transactional partner.”

DPRK-Iranian Nuclear Cooperation



Iran's increased cooperation with North Korea is believed to have contributed to the DPRK's first successful long-range ballistic missile test in December 2012.

Mounting evidence indicates that Iran's collaboration with North Korea extends beyond ballistic missile cooperation into the nuclear realm. As North Korea's nuclear program became more sophisticated in the 2000s, its nuclear assistance to Iran became more overt. Since 2010, Iran-DPRK nuclear cooperation has markedly intensified.

By the early 2000s, Israeli intelligence sources reported that the DPRK and Iran had set up a missile-centrifuge exchange deal. Under this arrangement, the DPRK "provided Iran with the engines for the Nodong missiles (the precursors of the Iranian Shahab-3 missiles) and worked out Shahab-3 manufacturing problems in Iran" in exchange for uranium enrichment assistance.

Despite the heightened attention Iran's nuclear activities have received since the early 2000s, and the international effort to impede the regime's nuclear development, nuclear cooperation between Iran and the DPRK continues today. This is extremely problematic, according to experts, because "Nuclear cooperation between North Korea and Iran, including the export and import of sensitive nuclear and missile technology, could greatly benefit both countries -- reactor, plutonium, and weapons technologies from North Korea to Iran; centrifuge technologies and missile technologies in both directions."

North Korea is believed to have aided Iran's weaponization efforts. According to Rep. Ted Poe (R-TX), intelligence provided to the International Atomic Energy Agency indicates "that North Korea transferred 'crucial technology' to Iran including mathematical formulas and codes for nuclear warhead design. In August 2011 for example, the nonproliferation Institute for Science and International Security (ISIS) highlighted a report by German newspaper *Suddeutsche Zeitung*, which stated that North Korea had provided Iran with a computer program called MCNPX 2.6.0. The program "simulates with great precision whether a nuclear bomb would explode." Western intelligence sources suggest that this program "may have been part of a larger \$100 million deal with North Korea for nuclear training and know-how and missile technology."

Iranian officials, including Mohsen Fakrizadeh, the head of Iran's nuclear program, were present at North Korea's first three nuclear tests in 2006, 2009, and 2013, reportedly paying millions of dollars for the privilege of attending. Access to another party's nuclear test data can provide significant "information about the design and yield of the device detonated — or about the size and configuration of the bomb's uranium hemisphere or plutonium core. Testing data could indicate the weight and shape of the nuclear device, its triggering mechanisms, or the warhead's material composition." The information gleaned from attending North Korea's nuclear tests could go a long way toward

helping Iran establish a covert nuclear weapons capability and reaffirms international concerns that Iran's nuclear program is oriented towards military, rather than civil, applications.

The high-degree of cooperation between Iran and the DPRK was formalized by the September 2012 signing of a "**Civilian Scientific and Technological Cooperation Agreement**" between the two countries. This agreement, which was ratified by Ali Akbar Salehi, head of Iran's Atomic Energy Organization, has facilitated the establishment of "**joint laboratories and exchange programs for scientific teams, as well as to transfer technology in the fields of information technology, engineering, biotechnology, renewable energy, and the environment.**" U.S. officials point out that "The last time North Korea signed an agreement like this **it led to the largest act of nuclear proliferation in modern history,**" referring to "**a similar agreement [North Korea signed] in 2002 with Syria's Bashar al-Assad,** after which North Korean scientists aided Syria in building a nuclear reactor that was destroyed by an Israeli strike in 2007."

It seems likely then, that the DPRK-Iran agreement provides a smokescreen behind which the two countries can engage in the illicit trade of **nuclear-related technologies and materials,** including ballistic missiles, centrifuges, and enriched uranium. Revealing the nefarious intention behind the pact, Supreme Leader Ali Khamenei stated that the agreement is the "**outcome of the fact that Iran and NK have common enemies, because the arrogant powers do not accept independent states.**" Further, the agreement has provided a means for both countries to dodge U.N. and U.S. sanctions on "missile proliferation activities." Under the agreement, "**when one side masters or acquires a key missile-related technology, the other now institutionally benefits.**"



Satellite imagery of the Tonghae launchpad.

Potential evidence of illicit nuclear-related trade facilitated by the agreement between Iran and the DPRK has already surfaced. In February 2013, it was discovered that **North Korea's upgraded missile launch site at Tonghae integrated similar design features to an Iranian launch complex in Semnan.** These new features, which "[haven't] been used by the North before," include "a flame trench covering that protects large rockets from the hot exhaust gases they emit on takeoff," and suggests that cooperation under the new agreement is well under way.

Recommendations



During his inauguration festivities on August 3, 2013, Iranian President Hassan Rouhani met with Kim Yong Nam, the head of North Korea's parliament.

Iran's strategic cooperation in the development of nuclear and ballistic missile technology with the DPRK is an essential component of Iran's project to destabilize the Middle East and achieve regional dominance. The advancements Iran has made to its ballistic missile arsenal as a result of its illicit collaboration with North Korea enhance Iran's ability to confront the U.S. and its allies and increase the costs for responding to Iran's

provocations. Further, the enduring relationship between the DPRK and Iran greatly hinders international efforts to obstruct Iran's nuclear development and to terminate North Korea's nuclear weapons program. Notwithstanding the JCPOA, Iran retains a pathway to nuclear weapons capacity through its ties with North Korea, threatening the deal's efficacy.

Due to the intertwined nature of the DPRK and Iranian nuclear and missile programs, any effort to thwart Iran's illicit proliferation activities in perpetuity must also disrupt the Iranian-North Korean pipeline. U.S. policymakers should consider the following measures to curtail Iran and North Korea's abilities to work in tandem to advance their destabilizing activities:

Advance legislation targeting Iran's ballistic missile program and the Iran-North Korea ballistic missile pipeline:

Given Kim Jong-un's increasingly bellicose behavior and repeated Iranian ballistic missile activity, sanctions need to be tightened to address this illicit relationship. The Trump administration should advocate for the passage of stalled legislation targeting both Iran and North Korea's ballistic missile programs. Such measures can play an integral role in disrupting the Iran-DPRK illicit procurement pipeline and can deny the two nations components and other technologies needed to advance their missile programs.

U.S. lawmakers wisely seized an opportunity to blunt the complementary ambitions of Iran and North Korea. The bipartisan **Korean Interdiction and Modernization of Sanctions Act (KIMSA)**, which overwhelmingly passed both houses of Congress and was signed into law by President Donald Trump on August 2, 2017 increased a president's ability to impose sanctions on countries found to have violated U.N. Security Council resolutions regarding North Korea. The legislation also expanded the list of activities that would trigger sanctions against a country partnering with North Korea on possible weapons development. Crucially, the bill requires the President to issue an annual report to Congress assessing the extent of cooperation (including through the transfer of goods, services, technology, or intellectual property) between North Korea and Iran, relating to their respective nuclear, ballistic missile development, chemical or biological weapons development, or conventional weapons programs.

Passage of KIMSA is an important step, but more can be done by Congress. The **Iran Non-Nuclear Sanctions Act**, introduced by Reps. Pete Roskam (R-IL), Lee Zeldin (R-NY), Leonard Lance (R-NJ), and Doug Lamborn (R-CO) in the House, and Sens. Marco Rubio (R-FL), Todd Young (R-IN) and John Cornyn (R-TX) in the Senate, is one such bill that would impose sanctions against persons that knowingly aid Iran's missile program and would require sanctions against entities with 25 percent or greater ownership by key organizations tied to Iran's ballistic missile program. In particular, the bill further tightens sanctions on the **Shahid Hemmat Industrial Group**, a subsidiary of Iran's Aerospace Industries Organization, which is responsible for key elements of Iran's ballistic missile program. Shahid Hemmat produces Iran's Shahab-3 and Ghadr ballistic missiles and cooperated with North Korea in their development, based on the DPRK's Nodong missiles.

Further, if Iran continues **testing and advancing its ballistic missile program in defiance of UNSCR 2231**, this legislation grants the U.S. Government additional leverage to support sanctions against entities that are minority-owned by the IRGC given the IRGC control over the ballistic missile program. The IRGC simultaneously exerts pervasive control over Iran's economy through front companies and shell organizations, which would mean sanctions targeting companies with minority IRGC ownership would create a significant impact throughout the Iranian economy. Further, given the opaque nature of Iranian firms it would create follow on chilling-effect for foreign investment, particularly in its oil and gas sector, as **the U.S. Treasury Department has designated the National Iranian Oil Company as an agent or affiliate of the IRGC itself**. In sum, passage and rigorous enforcement of the Iran Non-Nuclear Sanctions Act would represent a major setback for those engaged in Iran's ballistic missile development and its cooperation with North Korea.

Prevent a North Korean pathway to an Iranian nuclear bomb:

The U.S. must monitor Iranian efforts to outsource elements of its illicit nuclear program to North Korea and seek to prevent a North Korean pathway to an Iranian nuclear bomb—or an Iranian pathway to a ballistic missile delivery mechanism for a North Korean bomb. A key shortcoming of the JCPOA is that its restrictions only address Iran's domestic nuclear weapons program and the agreement lacks an enforcement mechanism to prevent the transfer of nuclear material and technologies to Iran from another country.

Iran remains bound by the nuclear Nonproliferation Treaty (NPT), which prohibits such a transfer, but its decades-long track record of violating the treaty by enriching and stockpiling nuclear materials and conducting weaponization experiments indicate that the NPT alone is an insufficient constraint on Iran's nuclear ambitions. Nonproliferation experts have also cautioned that if Iran is unwilling to freeze its nuclear program until the JCPOA's restrictions sunset, it can covertly and concretely advance elements of its nuclear program such as advanced centrifuge research, fissile material stockpiling, and weaponization efforts outside of Iran. These scenarios create a real risk that even under the NPT and JCPOA, Iran can shrink its breakout time to a nuclear weapon so drastically that the international community would have insufficient time to mount a coordinated response, leaving military action as the only available option.

To date, the U.S. has not officially confirmed nuclear collaboration between Iran and the DPRK. In reaching a nuclear deal with the P5+1, Iran sought to demonstrate the exclusively peaceful nature of its nuclear program. Since the July 2015 agreement, however, it has accelerated its ballistic missile testing, risking international sanctions and channeling resources into an effort that in effect is oriented toward perfecting the delivery means for a potential nuclear payload.

North Korea has also escalated its ballistic missile and nuclear testing since 2015, carrying out two nuclear tests in 2016 alone. Iran's ballistic missile expenditures contradict the pretense that its nuclear program is exclusively peaceful, and heighten concerns of an Iranian connection to the uptick in North Korean nuclear activity.

By front-loading the deal with access to more than \$100 billion in frozen assets and opening up the Iranian market to trade and investment, the JCPOA created a rich incentive for Iran to continue advancing its nuclear and ballistic missile programs, or to acquire weapons-grade fissile material and perhaps even completed nuclear weapons, from cash-strapped North Korea. The U.S. should make clear that it regards Iran extraterritorially carrying out nuclear activities proscribed by the JCPOA as violative of the deal, and will seek the activation of the JCPOA's sanctions "snap-back" mechanism as a result.

Disrupt Iran-DPRK Procurement Networks:

The similarities between North Korean and Iranian ballistic missiles raise the possibility that should North Korea successfully develop Nodong nuclear warheads, for instance, they would be compatible with Iran's Shahab-3s. Iran and the DPRK would then be able to enter into a sharing agreement. In July 2015 **congressional testimony**, nonproliferation expert Larry Niskch of the Center for Strategic and International Studies (CSIS) stated that, "A North Korean-Iranian agreement to share Nodong nuclear warheads, it seems to me, is a realistic possibility at this stage. North Korea and Iran have had successful sea and air clandestine transportation networks. There have been few interddictions of these networks. The transfer of Nodong warheads from North Korea to Iran would have a good chance of success."

To prevent this eventuality, the U.S. must act to disrupt North Korea and Iran's clandestine sea and air procurement networks, which have operated largely free of interference. The U.S. must work with China, in particular, to ensure that flights on the Pyongyang-Tehran route, which stop in Beijing, are not carrying illicit nuclear materials or sums of cash. Civil aviation companies considering doing business with Iran should also be cautioned that Iran may seek to use their aircraft for the secret transport of nuclear and ballistic missile components and technologies.

Impose Secondary Sanctions on Chinese Banks:

Another situation that the Trump administration must address is that of Chinese entities facilitating North Korea's access to critical parts and technologies from other countries. A number of Chinese banks and businesses, including the state-owned Bank of China, are reportedly complicit in the DPRK's sanctions-busting and proliferation efforts. According to a Politico report, "**For at least a decade, North Korea has sidestepped U.S. and United Nations sanctions against its own trading and financial institutions by establishing a global network of front companies, shell companies and third-country agents to seek parts, technology and financing for its weapons programs.**" Counterproliferation officials have cautioned, "These front companies rely on assistance provided by Chinese banks to gain access to U.S. and global financial systems, often by conducting transactions in U.S. dollars, and on Chinese businesses to obtain weapons parts."

Sensitive political considerations have hindered successive U.S. administrations from taking decisive action against China's role in North Korea's proliferation efforts to date. Given the

interconnected nature of Tehran and Pyongyang's ballistic missile programs, North Korea's proliferation advancements have redounded to Iran's benefit. The acceleration of Iran and North Korea's destabilizing proliferation activities lend a renewed urgency to the need for secondary sanctions against Chinese banks and businesses facilitating North Korea's WMD activities. According to Dennis Wilder, the CIA's deputy assistant director for East Asia and the Pacific from 2015-2016, "Treasury has done their homework on this for many years, and...there are sanctions packages that are either ready to go, or could be ready in a minute."

Conclusion

The JCPOA has strengthened Iran's, and by extension, North Korea's economic prospects while failing to rein in either country's nuclear ambitions. Tehran has clearly learned from the international community's failed approach to North Korea's nuclear program that it can use the negotiation process to pocket concessions while continuing to advance its nuclear program. If it is not addressed, the flawed JCPOA's apparent North Korean loophole would enable Iran to effectively carry on its nuclear research in North Korea, progressing towards a nuclear weapons capability, while reaping all the benefits the nuclear deal has to offer. The international community must focus on reining in the Iran-North Korea nexus to ensure that Iran does not follow in the DPRK's footsteps and someday also acquire a nuclear weapons capability. Pyongyang and Tehran remain two pieces of a greater national security puzzle that Americans and their elected policymakers must address.

Key Resources

- **"A Closer Look at Iran and North Korea's Missile Cooperation"** | *The Diplomat* (5/13/2017)
- **"Iran is Progressing Towards Nuclear Weapons Via North Korea"** | *BESA Center Perspectives Paper No. 415* (2/28/17)
- **"The Iran-North Korea Connection"** | *The Diplomat* (4/16/2016)
- **North Korea and Iran: Dangerous bedfellows with one common enemy, the US** | *The Hill* (3/23/2016)
- **Iran-North Korea-Syria Ballistic Missile and Nuclear Cooperation** | *Congressional Research Service* (2/23/2016)
- **"North Korea: Iran's Pathway to a Nuclear Weapon"** | *The National Interest* (8/13/2015)
- **"Iran and North Korea: The Nuclear 'Axis of Resistance'"** | *The Daily Beast* (1/31/2014)
- **"Iran-North Korea Pact Draws Concerns"** | *The Wall Street Journal* (3/8/2013)
- **"Iran 'Paid Millions for Ringside Seat at N.Korean Nuke Test'"** | *The Chosun Ilbo* (2/18/2013)
- **"Report: N. Korea upgrading rocket launch site"** | *Associated Press* (2/15/2013)
- **"The Iran Secret: Explaining North Korea's Rocket Success"** | *The Diplomat* (12/25/2012)
- **"Iran's Ballistic Missile and Space Launch Programs: North Korean-Iranian Cooperation"** | *Congressional Research Service* (2/6/2012)
- **"Can the North Korean Nuclear Crisis be Resolved?"** | Siegfried Hecker Presentation (3/21/2012)

- **“North Korea Steps Up Aid To Iran On Nuclear Program”** | *Süddeutsche Zeitung* (24 August 2011)
- **“North Korea, Iran trade missile technology: U.N.”** | *Reuters* (5/14/2011)
- **“Iran Fortifies Its Arsenal With the Aid of North Korea”** | *The New York Times* (11/28/2010)
- **“Proliferation Rings: New Challenges to the Nuclear Nonproliferation Regime”** | Chaim Braun & Christopher F. Chyba in *International Security* (Fall 2004)