

---

## The Nuclear Confrontation

Today the Korean peninsula is the only place on earth where it is remotely conceivable that the United States could become involved in a major ground operation with virtually no prior warning. The US presence is a historical product of the Cold War division of the peninsula and the hot war that followed. The United States again nearly went to war with North Korea in June 1994.

North Korea faces two related but distinct problems involving energy. The first is a shortage of energy. It is dependent on imported energy, especially oil. As its economy has deteriorated, its ability to finance imports of this essential industrial intermediate input has declined, exacerbating the country's economic difficulties.

Contemporaneously, North Korea has pursued a nuclear energy development program. The characteristics of the North Korean nuclear program are such that it cannot be justified as a rational response to the nation's energy woes. Instead its *raison d'être* must lie elsewhere, most obviously in a nuclear weapons development program. Given the North Korean regime's bellicose record of military aggression and weapons proliferation, the unnerving specter of a nuclear-armed North Korea has strongly conditioned the international community's response to the famine.

### The Energy Situation

Historically, North Korea has had a high energy use economy. Von Hippel and Hayes (1998) estimate that in 1990 (probably the rough peak of North

Korean consumption) primary commercial energy use was approximately 67 giga-joules per capita, three times the level of China in 1990 and about half that of Japan (which had a GDP per capita approximately 20 times as high).<sup>1</sup> Energy use has been high due to inefficient use of fuels and reliance on relatively less efficient coal as a source of energy. Estimates of electrical transmission losses due to the deteriorating condition of the grid range from 16 percent to an astounding 84 percent. For the most part, it appears that, because of the lack of monitoring devices, the North Koreans have no idea how much electricity makes it to end users.<sup>2</sup>

Most of North Korea's energy comes from coal, with lesser amounts generated by oil and hydropower.<sup>3</sup> Small-scale biomass, hydropower, and wind power have been increasingly used in the rural areas. North Korea has no oil, and its domestic supplies of coal are mostly anthracite, so it needs to import coking coal for use in steel mills (Choi 1991). Because of its high intensity usage and lack of domestic resources, the North Korean economy is highly dependent on imported energy supplies.

In the past, North Korea had obtained oil from the Soviet Union at subsidized prices.<sup>4</sup> In the early 1990s, when the Russians began demanding payment in hard currency at world prices, China emerged as North Korea's principal supplier of both oil and coal. As China shifted from a net exporter to a net importer of oil, its willingness to finance North Korea's energy consumption withered, and it too began to demand that North Korea pay full price. The Chinese reversed course, however, once the famine intensified and large numbers of refugees began crossing into China. It now supplies North Korea with most of its food, oil, and coal imports. For its part, North Korea intensified its efforts to swap military assets for oil, but this coping strategy was not entirely successful. According to BOK statistics, between 1989 and 1994 coal production fell by more than 40 percent, crude oil imports by 65 percent, and electrical generation

---

1. The industrial sector is the largest consumer of commercial fuels—particularly coal—in North Korea. The transport sector consumes a substantial fraction of oil products, which are also used in the production of the North's most heavily used fertilizers. The military consumes a significant share of refined oil products, as well. See Moiseyev (2000) for an overview of North Korean energy policy.

2. See Von Hippel and Hayes (1998) for a detailed analysis of electrical power generation in North Korea.

3. See Young (1994), Yoo (1996), Von Hippel and Hayes (1998), and Williams, Hayes, and Von Hippel (1999) for estimates of the sources of North Korean energy.

4. Patrick (1991) cites a figure of two-thirds of the world price, though given the ubiquity of relative price distortions in socialist bloc trade it is unclear what the effective subsidy was. More recently, in an attempt to reinsert themselves into the diplomatic game, it has been rumored that Russia would begin resupplying North Korea with crude oil, possibly between 400,000 and 500,000 tons annually, though it is unclear how much (if any) of this has been delivered (Noerper 1999).

by more than 20 percent. Williams, Hayes, and Von Hippel (1999) estimate that energy supplies from all sources have fallen more than 50 percent since 1990.

The North Korean economy is highly dependent on imported energy supplies for electrical generation, transportation, and industrial uses, including the production of fertilizer. Domestic usage is extremely high due to inefficient use and wastage, especially through the electrical grid. From an economic perspective, there is an imperative that North Korea both increase the availability of supply and improve the efficiency of use. There is no reason to believe that North Korea needs a nuclear power program to address these needs. Apparently there are diplomatic advantages to conflating these issues, however.

## The Nuclear Program

To construct a nuclear bomb, one needs either plutonium or enriched uranium as the fissile material. Plutonium is produced as a byproduct of nuclear fission and can be extracted from the spent fuel rods from a nuclear reactor. The amount of plutonium produced varies considerably by the type of reactor, making some designs more “proliferation-prone” than others. To fabricate a nuclear weapon, one must have some fissile material such as spent fuel rods, a facility to extract plutonium (or, alternatively, to enrich uranium to get it up to weapons grade), and a facility to actually construct the weapon. Once built, a delivery system is necessary for deployment.

North Korea began an experimental nuclear program in the 1950s, initially with help from the Soviet Union and later from China.<sup>5</sup> In 1967 it brought into operation at Yongdong a small experimental research reactor obtained from the Soviets, and in 1979 it began building a five megawatt reactor, which in 1986 became operational about three miles away at Yongbyon.<sup>6</sup> According to defectors, it was also during this period that the North Koreans began constructing nuclear weapon production facilities at an underground site nearby (Mansourov 1995).

As a condition for their help, the Soviets had insisted that North Korea accept the obligations of the Nuclear Non-Proliferation Treaty (NPT), despite the fact that they were not signatories. Beginning in 1982, US spy satellites began surveying what appeared to be the facilities necessary to construct nuclear weapons near the experimental reactor site. These facilities were surrounded by troops and anti-aircraft guns.

---

5. See Mansourov (1995), Denisov (2000), Kaurov (2000), and Zhebin (2000) for histories of the North Korean nuclear program.

6. According to Mansourov (1995), the North Koreans were able to expand the original Soviet two megawatt experimental reactor to eight megawatt capacity using indigenous technology.

In 1985, North Korea began work on a 50 megawatt gas-graphite reactor at Yongbyon and later initiated construction of a 200 megawatt gas-graphite reactor at Taechon.<sup>7</sup> The Soviet Union agreed to supply four light water reactors on the condition that North Korea join the NPT. The North Koreans joined the NPT in December 1985, but the negotiations between the North Koreans and the International Atomic Energy Agency (IAEA), the organization tasked with ensuring treaty compliance, went on for three years. During this period, relations between North Korea and the Soviet Union deteriorated (for unrelated reasons), as the Soviet Union began its glide path toward collapse. The upshot was that the North Koreans had signed the NPT, but had not received the promised reactors.

However, in 1987, after the five megawatt reactor began operations, North Korea began building a “radiochemical laboratory” at Yongbyon, suspected by US intelligence of being a reprocessing facility used to produce plutonium in weapons-ready form from spent reactor fuel. According to Mansourov (1995), this would have been the second largest such facility in the world, after the US plant at Hanford, Washington. US intelligence estimated that the plant could produce plutonium sufficient for 30 bombs annually once all three reactors became operational.<sup>8</sup> In 1989, 1990, and 1991, the five megawatt reactor was periodically shut down. It is unknown whether the original fuel was extracted from the reactor and new fuel loaded—providing the raw material for producing weapons grade fissile material, as US intelligence suspected—or whether the reactor was restarted with the original fuel in place. This unanswered question is the kernel of the uncertainty surrounding the North’s *existing* nuclear weapons inventory.<sup>9</sup>

However, the tide of history was running against the North’s patrons. As the East Bloc collapsed, the nuclear program’s importance as a strategic political and economic asset grew. With its own economic situation deteriorating, North Korea stepped up its efforts to barter weapons and military technology in the form of missiles, launchers, and nuclear and tunneling technology for oil with a number of countries in the Middle East, most prominently with Iran and Syria, which reportedly spent \$500 million each on North Korean wares (Gerardi and Plotts 1994), and also with subsequent proliferator Pakistan, to which North Korea reportedly supplied missiles and weapons material, including warhead canisters.

---

7. In some literature, this is characterized as a 600 megawatt or an 800 megawatt plant.

8. In addition to these facilities, the North Koreans constructed more than 100 other nuclear-related facilities in the area around Yongbyon and drew up plans for three additional 635 megawatt reactors. According to Mansourov (1995), there are more than 150 nuclear scientists with doctoral degrees and over 2,400 specialists working in the North Korean program.

9. See Li (2000) for a fascinating analysis of the possible role of North Korean disinformation in contemporary Russian and US intelligence assessments of the North Korean nuclear weapons program.

As circumstantial evidence of a North Korean nuclear weapons program grew, so did calls for international inspections. These were initially rejected on the grounds that US tactical nuclear weapons were present in the South. However, when the United States stated its intention to remove these, the North Koreans added additional conditions (Bandow 1998). Then, in December 1991 North and South Korea concluded their Joint Declaration on the Denuclearization of the Korean Peninsula, renouncing the construction of nuclear reprocessing and uranium enrichment facilities and providing for mutual inspections. Although a joint commission was established, no progress was made in addressing the substantive issues (Han 1994).

Having been hoodwinked by Iraq, the IAEA was determined not to be fooled again. In May 1992, an IAEA inspection team confirmed US intelligence that the North Koreans were building facilities capable of producing weapons and had possibly extracted from the spent fuel of the existing reactors enough weapons grade plutonium to make one or two "Hiroshima-size" bombs.<sup>10</sup> Test data taken from the IAEA's first visit was incompatible with North Korean claims that it had only extracted plutonium from spent fuel once, and the organization requested the right to make unscheduled inspections in the future (Han 1994). The North Koreans continued to dissemble and impede follow-up inspections by the IAEA, contributing to a hardening of attitudes at the inspection organization. The UN Security Council then announced that it was prepared to undertake punitive actions to back up the IAEA.<sup>11</sup>

In March 1993 the North Koreans unprecedentedly threatened to withdraw from the NPT. Two months later the North test fired a potentially nuclear-capable missile, the Nodong-1, into the Sea of Japan, provoking alarm in Washington, Tokyo, and Seoul. They feared that, once the two graphite reactors under construction came on line, the amount of plutonium that North Korea could produce would increase enormously. Faced with the specter of North Korea possessing and exporting nuclear weap-

---

10. This narrative draws on the highly readable (and very different) accounts contained in Oberdorfer (1997) and Sigal (1998a). On this specific point, Sigal argues that subsequent evaluations suggest that the IAEA overestimated the amount of plutonium extracted and the North's bomb-making capability. See Snyder (1999b) for an insightful interpretation of the subsequent negotiations between the United States and North Korea.

11. See Dembinski (1995) for an analysis of the North Korean action regarding the nonproliferation regime. Relations between North Korea and the IAEA deteriorated in parallel with relations with South Korea and the United States. The resumption in 1993 of the "Team Spirit" joint military exercises by the United States and South Korea was characterized by the North as a dress rehearsal for invasion. In its aftermath, an attempt by lame duck South Korean President Roh Tae-woo to improve relations with the North was undercut by the South Korean Agency for National Security Planning and the presidential campaign staff of Kim Young-sam, who regarded a reduction of tension as inimical to Kim's electoral interests (Oberdorfer 1997).

ons and possibly even intercontinental ballistic missiles, the response of the Clinton Administration was to negotiate a deal that conflated the energy shortage and nuclear weapons issues.

The following month, in response to American requests, Pyongyang agreed to negotiate with Washington over its nuclear program (indeed making a proposal similar to the eventually concluded "Agreed Framework").<sup>12</sup> Intensive brinkmanship ensued. The United States threatened to bring a sanctions resolution to the UN Security Council, and the North Koreans responded that "sanctions are a declaration of war."<sup>13</sup> The IAEA pulled out its inspectors, and the UN General Assembly voted 140-1 (with China abstaining and North Korea being the lone dissenter) in favor of a resolution urging the North to "cooperate immediately." At a North-South meeting at the demilitarized zone (DMZ) truce village of Panmunjom, a North Korean negotiator stated that in the case of hostilities, the North would turn Seoul into "a sea of fire," a remark that was broadcast repeatedly over South Korean television.

In May 1994, North Korea proceeded with the removal of spent fuel rods from the experimental reactor, making the construction of an accurate nuclear history impossible under IAEA procedures.<sup>14</sup> The IAEA concluded that this was deliberate. Indeed, US satellite photography appeared to indicate that the North Koreans had an extra defueling machine ready to expedite the defueling process. The IAEA then requested Security Council action, and North Korea responded by releasing a statement that read in part, "sanctions mean war, and there is no mercy in war."

---

12. An important aspect of this was Pyongyang's refusal, as part of a strategy of driving a wedge between Washington and Seoul, to deal with Seoul directly but to establish an independent relationship with the United States. Although in essential terms this did not occur, the bilateral negotiations between Washington and Pyongyang did serve to increase the unease felt by Seoul and to heighten tensions in US-South Korean relations.

13. The US sanctions proposal involved three escalating stages of sanctions. The first would block arms and nuclear cooperation. The second would block remittances (largely from Japan) and oil (mostly from China). The third would have prohibited all shipping into and out of North Korea.

No one expected sanctions to be effective. North Korea's main economic partners (China, Russia, and Japan) were all lukewarm at best. The Russians wanted back into the diplomatic game and to try out its own initiative before acquiescing to sanctions. The Chinese did not want sanctions, but told the North Koreans that they would not veto a sanctions resolution in the Security Council. They counseled the North Koreans to negotiate. The incumbent government in Japan was dependent on the pro-DPRK Japan Socialist Party for support. Moreover, it wanted to avoid any unpleasanties with the pro-Pyongyang *Chochongryun*, an organization of ethnic Koreans in Japan, and indicated that it would be unable to block remittances effectively.

14. The North notified the IAEA that it was planning to do this, but rejected the IAEA demand for a comprehensive inspection of the removed fuel. Nevertheless, Sigal (1998a) argues that, with North Korean cooperation, techniques other than the procedures followed by the IAEA would have made construction of a rough nuclear history possible.

The removal of the spent fueling rods in defiance of the international non-proliferation regime was instrumental in the US policy shift from preventive to coercive diplomacy. Although the United States had lived with tens of thousands of troops arrayed along the DMZ for forty years, the specter of a cash-strapped North Korea selling nuclear weapons and delivery systems to the highest bidder was something else entirely.<sup>15</sup> The Pentagon began serious preparations for war on the peninsula. A plan to use air strikes and covert operations was considered and rejected: the Pentagon held grave doubts about its ability to locate, let alone destroy, the relevant facilities without spewing radioactive fallout across Japan.<sup>16</sup> Rather, it concluded that, in its first 90 days a war could result in 52,000 US casualties, 490,000 South Korean casualties, enormous North Korean casualties, and cost more than \$61 billion, with little of this sum recoverable from allies. The Pentagon informed the Commander of US Forces Korea, General Gary Luck, that it would request the presidential authorization to begin the war buildup, commencing on 16 June 1994. North Korea indicated that a US buildup would precipitate a preemptive strike by its forces.<sup>17</sup>

Enter former President Jimmy Carter. For reasons of temperament or calculation, the Great Leader, Kim Il-sung, seemed to prefer the company of fellow visionaries like the Reverend Moon Sun-myung and the Reverend Billy Graham to more *realpolitik* types such as Henry Kissinger or Zbigniew Brzezinski. On his own initiative, the former President decided to pay a call on a fellow big thinker in Pyongyang. What ensued was surely one of the weirder episodes of an already strange saga. On the evening of 16 June, Pyongyang time, while General John Shalikashvili, Chairman of the Joint Chiefs of Staff, was in the White House presenting the war plan to President Clinton, Carter and Kim agreed that North Korea would freeze its nuclear activities and halt the planned expulsion of the remaining IAEA inspectors. In return, Carter would recommend that the US support North Korea's acquisition of light-water reactors (LWRs) and a resumption of the US-DPRK nuclear meetings. Carter then called the White House, interrupting Shalikashvili's presentation, to relay his conversation with Kim and inform the White House that, having

---

15. As President Clinton, in an unusual moment of clarity, put it: "it is pointless for [the North Koreans] to try to develop nuclear weapons, because if they ever use them it would be the end of their country" (quoted in Oberdorfer 1997, 288).

16. Then Air Force Chief of Staff Merrill McPeak has been quoted as telling reporters: "We can't find nuclear weapons now, except by going on a house-to-house search," and even once targets were located, "If you put them deep enough underground, we can't get to it" (quoted in Sigal 1999, 11).

17. Former President Carter was to later indicate that, on the basis of his conversations with Kim Il-sung and other high ranking North Korean officials, he believes that the North would have indeed launched a preemptive strike in the event of a United States buildup.

averted nuclear war, he was about to inform the world via a live interview on CNN.<sup>18</sup>

In an implicit commentary on the temperament of the National Security Council, the reaction to Carter's initiative was one of hostility.<sup>19</sup> In the end, cooler heads prevailed, and despite lingering anger the United States decided to send a message through Carter, adding additional conditions to the deal. Kim Il-sung acquiesced.<sup>20</sup>

Although the confrontation had been averted, a question would come back to haunt US policymakers: would the North Koreans have really gone to war, or was this simply a bluff on Kim Il-sung's part, one that would prove highly lucrative? While analysts were united in the view that North Korea could inflict major damage on South Korea (from shelling Seoul, if nothing else), no one seriously believed that North Korea could prevail over the United States and South Korea. If this end result were preordained, then how credible were North Korean assertions of its willingness to launch a preemptive strike? In all likelihood, not very. Nevertheless, the possibility of a horrendous war arising from ignorance, miscalculation, or irrationality on the part of the North Koreans cannot be dismissed completely. Such an outcome from this confrontation would amount to a quintessential example of a low probability event with an enormous negative payoff. While it has remained relatively easy for analysts to play Monday morning quarterback and second-guess this decision, it is difficult to imagine a reasonably risk-averse American policymaker acting differently.

Thus the United States and North Korea began preparing for a resumption of bilateral negotiations, while North and South Korea began preparing for a summit. On 7 July 1994, after conducting an on-the-spot inspection of a collective farm, the Great Leader Kim Il-sung suffered a massive

---

18. During the interview, he erroneously stated that sanctions consideration at the UN had been halted, which had the effect of doing exactly that, to the bitterness of sanctions supporters in the US government. Sigal (1999) argues that this was a deliberate action on Carter's part.

19. The atmosphere of this period should be recalled. One day prior to Carter's meeting with Kim, former Bush National Security Council (NSC) Advisor Brent Scowcroft and former Undersecretary of State Arnold Kanter, then the highest ranking US official to have ever met with the North Koreans in an official capacity, published an opinion piece titled "Korea: Time for Action" in the *Washington Post*. This article advocated a preemptive air strike against the North Korean nuclear facilities. The same day, Karen Elliott House, writing in the *Wall Street Journal* ("Korea: Raise Another Desert Shield") expressed a willingness to attack any Chinese vessel that might violate an embargo of the North.

20. In an expansive mood, Kim suggested that he and Carter repair to Kim's yacht to celebrate their accomplishment. During the boat trip on the Taedong River, Kim announced that he was willing to meet South Korean president Kim Young-sam unconditionally, and, under the prodding of his wife, Sohn Myung-soon, agreed to Carter's proposal for the establishment of joint US-North Korea teams to search for the remains of US servicemen missing in action from the Korean War.



heart attack and died. The death was to have an incalculable impact on the events that followed. South Korean President Kim Young-sam mishandled the death diplomatically, contributing to worsening relations between the North and South. With the untested “Dear Leader,” Kim Jong-il, presumably at the helm, plans for the summit were postponed indefinitely. Moreover, given the younger Kim’s reputation for ill health and bizarre behavior, the nuclear negotiations were evaluated under the assumption that the lifetime of the Kim regime could be measured in months, if not weeks.

As the outlines of the deal under negotiation emerged, critics in the United States correctly observed that the North Korean nuclear program was essentially *not* an energy program. If energy were the issue, there were cheaper ways of providing it than by building nuclear reactors (Galinsky 1994). The Senate, by a vote of 95-0, passed an amendment to the Foreign Assistance Act of 1995 permitting aid to North Korea only upon Presidential certification that North Korea did not possess nuclear arms and was not exporting nuclear weapons components or missile delivery systems. Despite this relatively hostile political environment, in October 1994 negotiators for North Korea and the United States signed an “Agreed Framework,” a schedule of mutual commitments that address North Korea’s nuclear program—but not its energy needs.

## The Agreed Framework

The Agreed Framework (reproduced in Appendix A) is an ambiguous document laying out a series of reciprocal actions. The essential bargain of the Agreed Framework is that North Korea would remain in the NPT, freeze operations at the three graphite reactors and related facilities, and submit to IAEA inspections of the three graphite reactor sites. In return, it would receive two 1,000 megawatt light-water reactors by a target date of 2003 (valued at roughly \$5 billion), 150,000 tons of heavy fuel oil in 1995, and 500,000 tons annually from 1996 to 2003 to replace the potential energy supply from the shut-down reactors. The two countries would also move toward normalization of economic and political relations, including the removal of US sanctions on trade and investment, establishment of liaison offices, and eventual diplomatic recognition.<sup>21</sup> North Korea

---

21. The issue immediately arose as to who would pay for these commitments, both internationally and within the United States. The initial oil shipment was financed by the US Defense Department (DOD), but DOD quickly made it clear that future funding would have to come from elsewhere. Although KEDO has had some success in procuring financial support internationally, it is apparent that most of the ultimate cost will be born by South Korea. Indeed, one interpretation of the agreement is that the negotiators were working under the assumption that the North Korean regime would not last until 2003. Therefore, in the context of a united Korea, the South Koreans would ultimately assume ownership of the reactors that they had financed.

would forego the reprocessing of the experimental reactor's spent nuclear fuel into plutonium, and, prior to the delivery of key LWR components, allow the IAEA to complete its appraisal of the accuracy of information earlier supplied to the IAEA by North Korea. Prior to the completion of the light-water reactors, North Korea would permit the IAEA to resume regular inspections of facilities not covered under the freeze. The United States would forego the threat or use of nuclear weapons against North Korea if the North would implement its 1991 nuclear pact with South Korea, which included mutual inspections.

In essence, the agreement traded ambiguity about past North Korean activities for a cessation of future activities—as long as the United States was confident that it had “gotten” the whole North Korean nuclear program—and kicked the can down the road roughly a decade. The crunch would come by 2003, when the United States is obligated to deliver the reactors and the North Koreans would be obligated to submit to unfettered IAEA inspections—something they had thus far been unwilling to do. The extent to which the agreement committed the North Koreans to suspension of nuclear related activities not explicitly covered in the agreement would later emerge as a source of contention.<sup>22</sup>

The deal was formulated as a bilateral agreed framework (or roadmap), not a treaty, and did not go through a ratification process in the US Senate. Indeed, according to Flake (1999), some congressmen regarded it as a deliberate attempt to circumvent the legislative branch. This lack of congressional “ownership” would come back to haunt the Clinton Administration as it attempted to implement the deal.<sup>23</sup> The election in November 1994 of a congress that was even more hostile to the Agreed Framework, and an incident the following month in which North Korean troops shot down a US helicopter that had strayed into North Korean airspace further hardened congressional attitudes.<sup>24</sup>

---

22. The narrow interpretation of the Agreed Framework is that it does not, as the language is couched in terms of an existing graphite reactor and the two graphite reactors under development. The broader interpretation is that North Korea's continued adherence to the NPT covers other potential nuclear sites. Some commentators also refer to unpublished “minutes” which may specify additional obligations. In a subsequent agreement with KEDO signed 15 December 1995, North Korea pledged both to freeze the existing graphite-moderated reactors and to “refrain from building the same.”

23. Generally supportive commentators at the time (cf. Perkovich 1994 and Mathews 1994) worried most about the precedential effects of “buying off” a potential proliferator. Sadly, their concerns appear to have been misplaced, as events in India and Pakistan subsequently showed. For a more critical contemporary assessment of the Agreed Framework, see Galinsky and Sokolski (1994). See Cossa (1997) for a useful assessment of the agreement after several years of operation.

24. Per the Agreed Framework, the United States did undertake highly limited sanctions removal in January 1995.

In March 1995, the United States, Japan, and South Korea established the Korean Peninsula Energy Development Organization (KEDO) to oversee the construction of the two reactors and the delivery of the oil. After diplomatic maneuvering involving such issues as what firm would build the reactors (the South Koreans supported KEPCO, the Korean electrical utility, while the North Koreans preferred a non-South Korean supplier), KEDO and the government of North Korea signed a supply agreement in December 1995 for the reactors.<sup>25</sup> (KEDO had already begun supplying the oil called for under the Agreed Framework.) Upon completion of the reactors, North Korea would begin to repay their costs over a 20-year period (or more precisely over a 17-year period after a three-year grace period), interest free.

As might be expected, funding quickly emerged as KEDO's biggest problem. With respect to the reactors, KEDO estimated that the cost of construction would be approximately \$5 billion, of which South Korea would cover roughly \$3 billion, Japan \$1 billion, and the remainder shared by the United States, the European Union, and other members of the consortium.<sup>26</sup> A second set of problems involving the inability of the parties to reach agreement on a series of protocols relating to training, warranties, and liability would emerge later as construction got underway.<sup>27</sup>

In addition to the reactors, KEDO must cover the costs of the oil deliveries and its own administrative costs, which together run about \$65 million annually. Predictably, the provision of alternative energy supplies has proven to be controversial.<sup>28</sup> The US Congress has never been enthusiastic

---

25. The South Koreans reportedly insisted that they build the reactors to ease future unification of the electrical grid, while the North Koreans did not want South Korean technicians roaming North Korea (*Economist*, 11 February 1995). A highly placed US official disputes the second part of this statement. Work on the first replacement reactor began in August 1997, and the interaction of North and South Koreans in the process of reactor construction has been touted as one of the accomplishments of the agreement (Anderson 1999).

26. The exact US dollar cost is unknown, since a considerable share of the costs are in South Korean won, and the dollar equivalent fluctuates with the won-dollar exchange rate.

27. The quality assurance protocol has yet to be completed, as KEDO has refused to assign to North Korea the warranties of the project contractors and subcontractors as is the standard procedure. The training protocol has not been completed because the North Koreans refuse to permit their technicians to travel to South Korea for training on the technology that will be used in the two reactors. North Korea has yet to establish a Nuclear Regulatory Commission to act as the prudential supervisor of the LWRs and is demanding financial and technical assistance in establishing the organization. It is difficult to see how these issues and the inspection by the IAEA (which will effectively require suspension of operations for an extended period of time) are consistent with completing the project as scheduled.

28. The Clinton Administration announced concern that some of the first shipment of oil may have been diverted to industrial or military use, and the Department of Defense indicated that it would oppose buying more oil with Department of Defense funds. Diversion concerns reemerged in October 1999 with publication of a General Accounting Office report

about funding KEDO. In 1996, the House voted to give KEDO only half the money needed to purchase the heavy fuel oil and in 1998 came close to appropriating no funds at all. Key Congressmen claimed that they had been deceived in their dealings with the Administration over funding. However, Congress never killed the deal, and instead gave its tacit approval by allowing the Clinton Administration to pay for the heavy fuel oil out of a discretionary fund for “emergency” expenditures through most of 1998, averting the immediate funding crisis.

Due to the perception that this was an American-negotiated deal in which South Korea had little say, funding has also been a hard sell in South Korea, which would bear the brunt (around 60 percent) of total costs. South Korea prepared to raise electricity charges (but put these plans on hold when the financial crisis hit the country in 1997) and issued special bonds to raise the necessary funds. The government revived the tax hike idea in May 1999, after the South Korean economy began to recover, and in July 1999 signed a contract to loan KEDO \$3.22 billion. For the historically minded, that South Korea should become North Korea’s principal energy patron, was a stunning irony in light of the North’s use of energy as a political weapon in 1948.

Even in the European Union, KEDO funding ran into difficulties, as the European Commission signed the agreement to join and fund KEDO without consulting the European Parliament. It is the Parliament which actually has to appropriate the funds, and it contains factions opposed to the agreement (Ford 1997). Former US Ambassador to the Philippines Stephen Bosworth, chosen as the first head KEDO, spent most of his tenure trying to raise money, eventually securing commitments from 24 countries to fund the annual budget (table 4.1).<sup>29</sup> Despite his efforts, however, the organization quickly ran into debt (in significant part due to the US Congress’ fiscal year 1997 funding delay) and had to employ innovative financial techniques to ensure that it could meet its commitments to both reactor development and oil provision. It reportedly resorted to financing

---

suggesting that perhaps 5 percent of the oil deliveries had been diverted from their intended uses. In light of the fungibility of the commodity in question, the ongoing bureaucratic budget wrangling within the US government, the lack of enthusiasm for the Agreed Framework in many quarters, and the US electoral calendar, perhaps these brouhahas were to be expected. In economic terms, however, the fungibility of the oil and the militarization in the economy mean that the issue of diversion is really irrelevant.

29. Taiwan offered to contribute to KEDO, but China, despite the fact that it does not contribute, objected. (The Chinese argue that they are the largest aid contributors to North Korea and do not need to contribute to KEDO.) President Clinton in his 1998 visit to China accepted China’s position on excluding Taiwan from KEDO. An official Taiwanese delegation visiting Beijing subsequently revisited the issue but was rebuffed by their hosts. Japan, which was preparing to host Chinese President Jiang Zemin, expressed “caution” at the offer (Michiyo Nakamoto, *Financial Times*, 21 October 1998).

**Table 4.1 KEDO contributions**

<b>Country</b>	<b>Contribution</b>	<b>Restrictions</b>
1995		
Australia	\$5 million	Heavy fuel oil
Canada	\$1.05 million	Heavy fuel oil
Finland	\$93,833	
Indonesia	\$324,895	Heavy fuel oil
Japan	\$2.8 million	Administration
	\$3 million	Pre-project
Malaysia	\$300,000	
Netherlands	\$500,000	
New Zealand	\$334,750	Heavy fuel oil
Singapore	\$300,000	
South Korea	\$1.8 million	Administration
Thailand	\$300,000	
United Kingdom	\$1 million	For non-proliferation aspects of KEDO activity
United States	\$5.5 million	Heavy fuel oil
	\$4 million	Administration
<b>1995 Total</b>	<b>\$26.3 million</b>	
1996		
Argentina	\$200,000	
Australia	\$1.59 million	Heavy fuel oil
Brunei	\$423,691	
Canada	\$735,565	
EC	\$6.26 million	
Finland	\$20,000	In kind-consulting services
	\$2,810	Heavy fuel oil
	\$100,000	
Germany	\$1 million	
Greece	\$25,000	
Indonesia	\$325,012	In kind-Heavy fuel oil
Japan	\$19 million	Collateral fund in case of liquidity shortfall
Netherlands	\$290,192	
New Zealand	\$343,025	Heavy fuel oil
Norway	\$250,000	
Philippines	\$150,000	
Singapore	\$100,000	
South Korea	\$2.7 million	Administration
	\$6 million	Pre-project
	\$165,000	Administration
Switzerland	\$118,148	
United States	\$22 million	Heavy fuel oil
<b>1996 Total</b>	<b>\$61.8 million</b>	
1997		
Australia	\$1.54 million	Heavy fuel oil
Canada	\$906,454	
EC	\$11.2 million	
	\$17.2 million	

*(continued next page)*

**Table 4.1** (continued)

<b>Country</b>	<b>Contribution</b>	<b>Restrictions</b>
Finland	\$75,119	
	\$18,780	In kind—consulting services
Hungary	\$10,000	
Japan	\$3.73 million	Administration
	\$3.2 million	Administration
New Zealand	\$321,935	Heavy fuel oil
Norway	\$250,000	
Oman	\$50,000	
Singapore	\$100,000	
South Korea	\$3 million	Administration
United States	\$21 million	Heavy fuel oil
	\$4 million	Administration
<b>1997 Total</b>	<b>\$66.6 million</b>	
1998		
Australia	\$1.2 million	Heavy fuel oil
Czech Republic	\$127,816	
EC	\$900,000	Administration
Finland	\$91,193	
France	\$503,778	Study on management of spent fuel
Indonesia	\$325,000	In kind—Heavy fuel oil
Japan	\$530,000	Administration
	\$3 million	Administration
New Zealand	\$258,800	Heavy fuel oil
	\$355,700	Heavy fuel oil
Singapore	\$100,000	
South Korea	\$3.5 million	Administration
	\$45 million	Korea Export-Import Bank loan
	\$97,133	Administration
United States	\$26.4 million	Heavy fuel oil
	\$3.6 million	Administration
	\$5 million	Heavy fuel oil
	\$10 million	Heavy fuel oil
	\$5 million	Heavy fuel oil
<b>1998 Total</b>	<b>\$122.4 million</b>	
1999		
(as of June 1999)		
Canada	\$161,447	Other
Finland	\$92,333	
Italy	\$1.25 million	
	\$571,429	
Japan	\$432,867	
	\$1 billion	Light-water reactor
Singapore	\$400,000	
South Korea	\$3.22 billion	Light-water reactor
United States	\$12 million	Heavy fuel oil
	\$14 million	Heavy fuel oil
	\$1 million	Administration
	\$17.5 million	Heavy fuel oil
	\$2.5 million	Administration

Source: Various KEDO Annual Reports.

oil purchases with loans and making credit deals with suppliers.<sup>30</sup> This, in turn, hampered KEDO's ability to deliver oil on a timely basis (since the North Koreans have limited storage capacity, the oil cannot be delivered all at once), and the North Koreans threatened to pull out of the agreement.<sup>31</sup>

The situation worsened in the spring of 1998. Prior to the second round of the Four Party Talks in March 1998, the United States presented North Korea with a potential "roadmap" for removal of US economic sanctions. The problem was complicated because sundry bits of the US government bureaucracy responsible for different sets of ongoing negotiations with the North Koreans had laid claim to various sanctions. There was a missile talks "bucket," a Four Party Talks "bucket," etc. To the North Koreans, the United States had already agreed to remove sanctions as part of the Agreed Framework. They viewed linkage of specific sanctions removals to a host of bilateral issues as an example of "salami tactics."<sup>32</sup>

In April North Korea suspended the process of "canning" the spent nuclear fuel rods and began threatening to resume processing. Tensions continued to increase over the summer of 1998 as a second North Korean submarine was encountered off the South Korean coast and a North Korean frogman washed up on a South Korean beach.

Funding KEDO became considerably more difficult when reports began to emerge publicly that North Korea was secretly continuing its weapons development program in violation of the agreement. In July 1998, the US General Accounting Office (GAO) reported that the North Koreans were refusing to cooperate with the IAEA and might be trying to destroy evidence of a continuing nuclear weapons program (GAO 1998). Administration credibility was further damaged by apparently contradictory characterizations of the North Korean nuclear program. During the spring, while stumping for KEDO reauthorization, the State Department had assured Congress that there was no evidence of continued nuclear activity, contradicting the private briefing given to a senior member of Congress by the National Security Agency. On 3 August, at a closed-door briefing for a select House panel, Secretary of State Madeleine Albright was casti-

---

30. Bosworth went on to become the US Ambassador to South Korea and was replaced as Executive Director of KEDO in October 1997 by another American diplomat, Desaix Anderson.

31. By the end of 1998, KEDO had fallen behind on almost half of its scheduled delivery. As in the previous year, scheduled 1998 deliveries were completed in early 1999. However, whereas KEDO owed \$47 million in supplier credits at the end of 1997, by the end of 1998 this had been reduced to \$21 million.

32. One North Korean negotiator reportedly exclaimed that: "We're talking national security, and they are talking about basketball players!" This was a reference to permitting a North Korean basketball player to try out for a professional basketball team in return for confidence building measures in the Korean demilitarized zone (Flake 1999a).

gated for having misled Congress. Her account of contemporaneous US intelligence assessments was flatly contradicted by Lt. General Patrick Hughes, Director of the Defense Intelligence Agency. Two weeks later, the *New York Times* reported that US intelligence had detected a secret underground complex at Kumchangri, near the frozen Yongbyon nuclear complex and believed to be for the purpose of renewing the nuclear program. The cat was publicly out of the bag.<sup>33</sup>

## The Suspect Site and the Missile Test

As it happened, North Korea proved capable of worsening its relations with the rest of the world without the aid of the *New York Times*. The public revelation of a suspected North Korean violation of the Agreed Framework followed months of reports of increased North Korean nuclear and missile activity.<sup>34</sup> As noted earlier, North Korea has maintained an active missile development program and has exported missiles widely.<sup>35</sup> In August 1998, it publicly threatened to step up its missile exports unless the United States removed its embargo and similarly threatened to restart its nuclear program if the oil deliveries were not made on time. Once the existence of the suspected nuclear site became widely known, a period of brinkmanship followed, with both sides threatening to walk away from the Agreed Framework. US negotiator Ambassador Charles Kartman told reporters that there was “compelling evidence” of nuclear-related activities at the site (a statement he later retracted), and the South Koreans put out the line that US and South Korean scientists had discovered traces of plutonium in water and soil samples taken from the site—without revealing how such samples were obtained. North Korea, in a statement circulated by its UN Ambassador, Li Hyong-chol, characterized the US position as “like a declaration of war” and “a reckless adventure, losing all rea-

---

33. David E. Sanger, *New York Times*, 17 August 1998. The South Korean government later claimed the existence of additional underground sites as well. The Japanese press later reported that North Korea had been building three underground facilities capable of launching ballistic missiles—reports that were apparently confirmed by US spy satellites. Indeed, in the first meeting between US negotiator Ambassador Charles Kartman and North Korean Deputy Foreign Minister Kim Gye-gwan, Kim supposedly demanded \$300 million for access to a *different* underground site than the one in which the United States was primarily interested. When he realized his error, he quickly retracted the offer. For a very different interpretation of these North Korean activities, see Quinones (1998).

34. Indeed, one theory was that the underground site at Kumchangri was actually a facility for testing and manufacturing the Nodong-1. The North Koreans variously characterized it as “civilian underground structures” and a “military recreational facility.”

35. See Bazhanov (2000a) for an informative history of the North Korean missile program.



son.”<sup>36</sup> Reason prevailed however, and the United States and North Korea settled down to negotiations over US inspectors’ access to the site, in what one commentator characterized as another instance of “checkbook diplomacy” (Cossa 1998).<sup>37</sup> The North Koreans began by asking for \$1 billion in “reparations” for access to the site, but through the fall of 1998 the asking price dropped to \$300 million, and in March 1999 the North Koreans were instead persuaded to accept a package of 600,000 metric tons of grain with an approximate street value of \$120 million (100,000 tons of which was to be provided through private humanitarian initiatives) and a potato production demonstration project.<sup>38</sup> In a departure from the Administration’s “no compensation” line, Presidential envoy and former Defense Secretary William Perry characterized the obvious as a “*quid pro quo* for achieving our aims.”<sup>39</sup> Yet, in another instance of following apparent progress with a provocative act, the North Koreans sent two suspicious ships into Japanese waters, prompting the Japanese Maritime Self-Defense Force to fire warning shots for the first time in 46 years. As expected, when the US team led by State Department official Joel Wit did visit Kumchangri in May 1999, it found a large underground cavern that conceivably could be used for nuclear activities, but at the time of the inspection was not so being used.

---

36. On threats to abandon the agreement, see Philip Shenon, *New York Times*, 6 December 1998. On Ambassador Li’s statement, see Associated Press, 7 December 1998. This statement, which also contained threats to attack South Korea, Japan, and US forces stationed in South Korea, was issued while US Presidential envoy former Defense Secretary William Perry was in Asia to confer with leaders in Japan and South Korea. It was issued during a week in which the KCNA issued bellicose diatribes against the United States, Japan, and South Korea daily (see <http://www.kcna.co.jp>), including a threat from Army General Officer O Kum-chol “to annihilate the U.S. imperialists, Japanese reactionaries, and South Korean puppets in one stroke” (Reuters, 8 December 1998). The Perry process is discussed more generally in chapter 9.

37. The KCNA carried an editorial stating that the US demand for an inspection “slanders and blasphemes North Korea,” and that if the United States wants access to the facility “they must of course pay reparations for their slander” (KCNA, 11 November 1998). US negotiator Ambassador Kartman stated that: “We have absolutely rejected the concept of compensation, so the question of the amount is irrelevant” (Reuters, 19 November 1998).

38. It is unclear what role China played in this diplomatic maneuvering. On the one hand, the Chinese Ambassador to Seoul, Wu Dawei, described the US demand for inspection based only on suspicions as going beyond international norms—a view echoed the following week by China’s official news agency *Xinhua*. During US-DPRK negotiations held in Beijing, China warned the United States to “exercise prudence.” On the other hand, Clinton Administration officials repeatedly indicated privately that the Chinese were being helpful, a view supported by some China watchers.

39. For the Perry quote, see David Sanger, *New York Times*, 17 March 1999. The deal was predictably attacked by former Secretary of State James A. Baker, 3rd (Baker 1999) and by the *Wall Street Journal* editorial page (*Wall Street Journal*, North Korea’s Black Hole, 22 March 1999) as a likely ineffectual attempt to appease North Korea.

On 31 August 1998, while negotiations over access to the Kumchangri site were going on, the North Koreans test fired a three-stage rocket across Japan into the Pacific Ocean.<sup>40</sup> Whatever the motivations for the action, the rocket launch sent shock waves throughout the region.<sup>41</sup> Since the Japanese did not possess any independent capability to monitor the launch, they were informed of the incident by the United States in accordance with their bilateral informational exchange agreement. Once apprised, the reaction in Tokyo was embarrassment followed by fury. Japan responded by putting its military forces on alert, announcing a halt to food aid, suspending public participation in KEDO and refusing to approve KEDO financial arrangements scheduled to be signed 31 August, suspending talks on normalization of relations, and proposing to condemn North Korea in the UN Security Council.<sup>42</sup> Japan also expressed interest in building its own satellite reconnaissance system, cooperating with the United States in its proposal for developing a Theatre Missile Defense (TMD) system for Japan, and deepening military cooperation with South

---

40. There is considerable confusion (much of it due to bureaucratic and domestic politics) over the rocket that North Korea launched on 31 August 1998. Some have claimed that this was a test of the Taepodong-1 or a Taepodong-2 missile, while the North Koreans and some others have claimed that it was a satellite launch. Robert D. Walpole, the US Central Intelligence Agency's senior intelligence officer for strategic programs, has stated that, while a launch of the two-stage Taepodong-1 was expected, the fact that it was a three-stage rocket possibly capable of delivering a small payload across the Pacific took US intelligence analysts by surprise. The North Korean government described the US reaction as "the height of impudence" and threatened to use the rocket as a military delivery system (KCNA, 25 September 1998). It also has been reported that Deputy Foreign Minister Kim Gye-gwan, in New York for negotiations over access to the Kumchangri site, was taken by surprise by the launch.

41. A variety of explanations were proffered for the timing of the launch. Some analysts expressed the view that the North Koreans acted to express anger over the delay in shipments of fuel oil from KEDO. Others argued that this was a signal to the United States prior to the resumption of its missile talks with North Korea, citing the reported presence of past North Korean missile customers at the launch. Yet another possibility was that the launch was a symbolic propaganda act undertaken as delegates to the Supreme People's Assembly were gathering in Pyongyang for the first time in seven years. North Korean propaganda touted it as evidence of national power—a show of scientific achievement and a threat to the nation's enemies.

42. Japan subsequently agreed to renew its funding for the KEDO project in October 1998, but, when Japanese Prime Minister Keizo Obuchi met with South Korean president Kim Dae-jung, he proposed expanding the format of the Four Party Talks to include Japan and Russia. When reports of North Korean preparations for a second launch began emerging in 1999, Japanese Defense Minister Hosenori Norota announced that, in the event of a second test, Japan would reconsider its support for KEDO (Reuters, 7 January 1999). He subsequently raised the possibility that Japan might engage in preemptive strikes if it believed a North Korean attack was imminent (Lee Sung-yul, *Korean Herald*, 17 March 1999). Japan signed a contract to lend \$1 billion to KEDO in May 1999, shortly before Perry's visit to Pyongyang. The Diet approved the funding the following month.

Korea.<sup>43</sup> Indeed, the combination of North Korean bellicosity and the election of Kim Dae-jung pushed Japan and South Korea toward their closest cooperation in history.

After a brief silence, North Korea offered its own interpretation of the events, assailing Japan for being “impudent,” and “bitterly denouncing” Japan for “making a fuss.” North Korea explained that, rather than the test-firing of a missile, the 31 August event was a “scientific satellite” launch, sending into orbit a satellite that “is now transmitting the melody of the immortal revolutionary hymns ‘Song of General Kim Il-sung’ and ‘Song of General Kim Jong-il’ and the Morse signals ‘Juche Korea’ on 27 megahertz.”<sup>44</sup> As it went on to excoriate Japan for “slander,” it asserted that Japan was using the satellite launch as a pretext for rearmament and that it had a plan for invading North Korea. It even went as far as stating in a radio broadcast that the countries were “on the verge of war.”<sup>45</sup>

In the United States, the test firing immediately raised strategic questions, for it indicated that the North Koreans could possibly strike Japan-based US troops that were necessary for any sustained campaign on the peninsula.<sup>46</sup> It also raised the possibility that North Korea was developing its missiles faster than expected, and that it might have, or soon unveil, the Taepodong-2, capable of delivering warheads to Alaska and Hawaii. Predictably, the Clinton Administration policy was described as “appeasement” (Iklé 1998). House Appropriations Committee Chairman Representative Bob Livingston (R-Louisiana) recommended defunding KEDO, and the relevant House Appropriation Subcommittee voted 29 to 16 on 10 September 1998 to drop all funding. In the Senate, amendments offered by Senator John McCain (R-Arizona) and Senator Kay Bailey Hutchinson (R-Texas) to the Foreign Aid Spending Bill would have made it virtually impossible for the United States to meet its commitments under the Agreed Framework (Flake 1999a). A compromise was eventually reached in which the Congress would appropriate the necessary funds for KEDO,

---

43. Japanese concerns were heightened further in June 1999 when North Korean ships entered Japanese territorial waters before fleeing Japanese naval Self-Defense Forces. Japanese defense officials later used the existence of possible North Korean biological and chemical-armed missiles to increase funding for counter strategies.

44. KCNA, 4 September 1998. In the end, the consensus of foreign analysts was that the rocket was a failed satellite launch. This, of course, did not negate the fact that, while the 31 August 1998 delivery system may have been fitted with a satellite, subsequent rockets could be equipped with warheads.

45. Later, in an oddly timed December 1998 maneuver coming on the anniversary of the Pearl Harbor attack, North Korea threatened to attack Japan in a statement distributed by North Korean UN Ambassador Li Hyong-chol during the brinkmanship over access to the Kumchangri site.

46. The North Koreans threatened to do precisely this in a statement circulated at the UN during the negotiations over access to the suspected nuclear site at Kumchangri.

but as a *quid pro quo* the Administration would appoint an outside advisor to evaluate US policy toward North Korea and present this policy review to the Congress. In November 1998, President Clinton appointed former Defense Secretary William Perry “North Korean Policy Coordinator,” with a mandate to “participate in a full and complete interagency review of U.S. policy and objectives toward North Korea.”<sup>47</sup>

However, in negotiations the following week, after once again threatening to walk away from the Agreed Framework if the United States failed to meet its KEDO obligations, the North Koreans agreed to resume “canning” the spent nuclear fuel rods at the Yongbyon facility. The Clinton Administration responded favorably with “an unusually large” shipment of 300,000 metric tons of food. An unnamed official explained that the Administration wanted to avoid a confrontation with North Korea while enmeshed in the Monica Lewinsky scandal.<sup>48</sup> At the same time, the Department of Defense released its East Asia-Pacific Security Strategy, a midterm blueprint of regional security goals, which stated: “If North Korea proves unwilling to fulfill the terms of the [Agreed Framework], the U.S. will pursue its fundamental security interests through other diplomatic and security means” (Department of Defense 1998, 24).

The following month, in the separate bilateral missile talks, the United States expressed its “strong opposition” to North Korean missile exports, indicating that there would be “very negative consequences to efforts to improve U.S.-North Korea relations” if North Korea made any further attempts to test or export long-range missiles.<sup>49</sup> In the next set of missile talks, North Korea repeated its earlier demand for \$500 million compensation for three years in exchange for an end to its export of missiles and missile technology, a figure that was later reduced to \$300 million.

Having lived under direct North Korean threat for more than four decades, and having not been as acutely sensitive to the global weapons of mass destruction proliferation concerns as the United States, the initial reaction of the South Koreans was muted. Indeed, the launch was interpreted by some as a rebuke of South Korean President Kim Dae-jung’s “sunshine policy” toward the North. Like the Japanese, the South Koreans announced that they were reconsidering their participation in KEDO, though unlike Japan, the South Koreans did not actually suspend participation. South Korea saw the test firing and the subsequent reactions in

---

47. Quoted from Department of State press release, “Dr. William Perry Named North Korea Policy Coordinator,” 12 November 1998.

48. David E. Sanger, *New York Times*, 10 September 1998. For a chronology of US food deliveries associated with specific diplomatic negotiations, see table 5.3.

49. James P. Rubin, “U.S.-DPRK Missile Talks,” 2 October 1998, press release.

Tokyo and Washington as an opportunity to advance its own strategic interests.<sup>50</sup>

The big loser in the midst of all of this appears to be China. Despite numerous statements from Clinton Administration officials praising China for unspecified cooperation in dealing with North Korea, China has not participated in the World Food Program (WFP) appeals, has not joined KEDO, has effectively blocked Taiwan's participation in that organization, and has turned a blind eye toward North Korean military activities at least with respect to Pakistan (which China regards as a useful tool in its rivalry with India).<sup>51</sup> The upshot of the August test was closer military coordination among the United States, Japan, and South Korea, as well as renewed interest in theater missile defense and the reinvigoration of Japan's satellite reconnaissance program, all of which China regards as inimical to its interests.

In January 1999, just prior to bilateral negotiations aimed at obtaining access to the suspected nuclear site at Kumchangri and another round of the Four Party Talks, North Korea, citing KEDO's delayed oil deliveries, again threatened to withdraw from the Agreed Framework. In June 1999, intelligence officials in the United States, Japan, and South Korea detected preparations for another missile test, which South Korean National Intelligence Service Director Chun Yong-taek identified as the Taepodong-2. As CIA Director George Tenet had testified before Congress, that missile could deliver small payloads to the continental United States and significantly larger payloads to Alaska and Hawaii. Deputy Assistant Secretary of Defense Kurt Campbell told reporters that the United States would regard this as "a very serious act with very real consequences" and "very

---

50. In particular, South Korea has used the North Korean action as a justification for developing missiles with ranges up to 500 kilometers, which would be in violation of the Missile Technology Control Regime (MTCR) if they proceed. See C. S. Chun (2000) for a discussion of MTCR issues.

51. For example, in an October 1997 speech, President Clinton stated that "China has helped us convince North Korea to freeze and ultimately end its dangerous nuclear program" (quoted in Jim Mann, *Los Angeles Times*, 9 September 1998). Nevertheless, unnamed White House and Pentagon sources alleged that China continued to share space technology with North Korea—even after the August 1998 missile launch.

As indicated in chapter 3, North Korea reportedly helped Pakistan develop a version of its Nodong-1 missile, and it has been speculated that Pakistan might be aiding North Korea with enrichment know-how that would permit North Korea to develop a uranium-based bomb. Unsurprisingly, analysts in India expressed concern about the implications of the North Korean missile launch. Immediately after the launch, Chinese president Jiang Zemin assured Israeli Defense Minister Yitzhak Mordechai that China would not assist Iran, another North Korean customer, in developing advanced technology that could be used to produce nonconventional weapons. Israel had earlier planned to offer North Korea \$1 billion in investment and technical assistance to block an Iranian bid to purchase 150 Nodong-1 missiles, but was dissuaded from this tack by the United States and South Korea (Sigal 1998a).

real implications” for the process of normalization of relations.<sup>52</sup> US House International Relations Committee Chairman Benjamin A. Gilman (R-New York) launched his own preemptive strike, characterizing the Clinton Administration’s policy as “appeasement,” introducing legislation that would explicitly condition humanitarian aid on North Korean behavior (Gilman 1999), and later cosponsoring legislation with Representative Ed Markey (D-Massachusetts) that would make provision of key reactor components conditional on presidential and congressional certification that North Korea was in full compliance with the NPT. (The proposal passed the House, though not the Senate.)

Upon returning from Pyongyang, UN Undersecretary General Yasushi Akashi confirmed that the North Koreans were preparing for another test. Touring South Korea and Japan, US Secretary of Defense William Cohen warned that another missile launch would have “serious implications” and would imperil US support for the Agreed Framework. He agreed to increase US land, air, and naval forces around the peninsula. Attending the Association of Southeast Asian Nations (ASEAN) Regional Forum (ARF) in Singapore, Secretary Albright repeated the US formulation, stating that another long-range missile launch would have “serious negative consequences” for North Korea. The North responded by calling Cohen a “crazy war maniac” and threatening to pull out of the Agreed Framework unless the United States began to show “good faith” by lifting sanctions.<sup>53</sup>

At the same ARF meeting, Japanese Foreign Minister Masahiko Komura indicated that another launch would likely result in a termination of Japan’s support for KEDO and passage of the economic sanctions legislation that the Diet was currently considering. Similarly, Japanese Defense Minister Hosenori Norota reiterated that Japan might suspend its contributions to KEDO in the event of another North Korean missile launch. (The Japanese Diet would later take up legislation permitting the cutoff of private remittances.) As Australian Foreign Minister Alexander Downer summed it up, a second test “will not only end the Perry review initiative, and therefore the possibility of greater engagement with North Korea, but a further test will throw into doubt the whole of the Agreed Framework.” South Korean Foreign Minister Hong Soon-young suggested that the international community might cut off food aid, and he added that the United States and South Korea had agreed to develop missiles with a 300-kilometer (186 mile) range. (He would later add that South Korea would delay or reduce economic cooperation as well.) The United States, Japan, and South Korea issued a joint statement at the conclusion of the ASEAN Regional Forum, urging North Korea to forego missile testing

---

52. Quoted in David E. Sanger and Eric Schmitt, *New York Times*, 1 July 1999.

53. See KCNA, 26 July 1999.

and warning of “serious consequences” if it did not. Even the UN Development Program got into the act, with Administrator Mark Malloch Brown telling the North that, while the UNDP would not close its Pyongyang office in the event of a missile launch, some donors would probably cut back funding for UNDP activities in North Korea.

As expectation of a second test grew in 1999, China hesitantly began to take a more constructive approach.<sup>54</sup> Although the Chinese ambassador to Seoul, Wu Dawei, once again defended Pyongyang’s right to engage in “scientific launches,” and at the ASEAN Regional Forum China declined to join the United States, Japan, and South Korea in their joint statement, Foreign Minister Tang Jianxuan indicated that China would “play the role it can” to deter North Korea from testing a long-range missile.<sup>55</sup> Nevertheless, the Chinese themselves tested a missile, arguably impeding their ability to convince the North Koreans not to do likewise.

For several weeks the world was treated to almost daily reports of North Korean missile launch preparations. During this extended buildup, North Korean rhetoric toward Japan was extreme, even by North Korea’s inimitable standard, repeatedly noting the existence of the North Korean missile and demanding Japanese compensation for events of the colonial period.<sup>56</sup> The Japanese, however, refused either to apologize or to compen-

---

54. China allegedly demanded the removal of two North Korean missile bases near its border. These bases are reportedly dug into mountainsides facing China, requiring any attacker to overfly Chinese airspace.

55. For the “scientific launch” quote, see John Burton, *Financial Times*, 23 July 1999. For the Tang statement see Son Key-young, *Korea Times*, 25 July 1999. The Chinese continued to take this line through the September 1999 APEC summit in Auckland, New Zealand.

56. For example, the lead story from KCNA on 10 August 1999 read, in part:

“The mental, human, and material damage the Japanese imperialists inflicted upon Koreans during their occupation of Korea was something unprecedented in human history in nature, manifestation, and scale. . . . In a nutshell, the Korea policy pursued by Japan for a hundred years was aimed at exterminating, dividing, alienating, excluding and antagonizing the Korean nation. . . . Improvement of bilateral relations means, in essence, liquidating the crimes Japan committed against the Korean people in the past and, on this basis, developing new good neighborly relations. . . .

“Japan’s refusal to liquidate the past is, in essence, a revelation of the militarist design to repeat the past crimes as well as the wild ambition for reinvasion to realize the old dream of the “Greater East Asian Coprosperity Sphere.” An assailant, Japan is obliged to make a sincere apology and compensation to the DPRK both legally and morally for all its past crimes. A victim, the DPRK has a legitimate right to get compensation from Japan for all its past damage on the publicly recognized principle of international law and international usage. . . .

“The present Japanese authorities do not bother to conceal their scenario that the first target of their overseas aggression is the DPRK. . . . The ‘threat from North Korea’ on the lips of the Japanese reactionaries is a prelude to reinvasion of Korea. . . .

“Japan must stop pursuing the policy of stifling the DPRK . . . it must make a sincere apology and full compensation to the Korean people for all of its past crimes . . . if Japan dare turn to a showdown of strength in a bid to find a pretext to realize the wild ambition

sate the North Koreans. By the third week of August, the North Koreans, while continuing to demand compensation from the Japanese, stopped making repeated references to their missile, and signaled that they were reconsidering their launch.<sup>57</sup> Negotiations with the United States resumed in Berlin during the first week of September. Having taken a rhetorical run at Japan and having come up empty-handed, the North Koreans took the best alternative available—a moratorium on missile tests and compensation via the Perry package deal. For foregoing the test, the North Koreans obtained an announcement of partial sanctions lifting by the United States and the prospect of further concessions by Japan and South Korea. Nevertheless, they appear to have rejuvenated Japanese military modernization plans and encouraged closer cooperation between Seoul and Tokyo. The July 1999 Japan Defense Agency white paper focused almost exclusively on the threat posed by Pyongyang.

## Evaluation

A number of conclusions can be gleaned from this discussion. First, North Korea has real, energy-related needs that are tied to the economy. From this perspective, neither the North Korean nuclear program nor the Agreed Framework make much sense. As Von Hippel and Hayes (1998) point out, the reactors would produce more electricity than North Korea could possibly use. Indeed, the North Korean electrical grid is in such poor shape that substantial refurbishment would be required before the reactors could be used effectively. Furthermore, the North Korean system runs on a different frequency than the systems of China and Russia, so that expensive interchanges would have to be installed before electricity could be exported to those countries. In the case of South Korea, the frequency is the same, but, because of poor frequency control and power surges in the North, a conversion station would need to be built before electricity produced in the North could be shipped South. In sum, as currently constituted, KEDO does not address North Korea's serious domestic energy problems, nor would the light-water reactors be an efficient source of export earnings. These agreements do not address the real problems that North Korea faces in the energy sector. Williams, Hayes,

---

for reinvasion, we will have no option but to take a countermeasure . . . if it repeats its crime-woven history and undertakes a reckless provocation, the DPRK will never miss the opportunity for meting out merciless retaliation but make Japan pay a high price for the blood shed by the nation and give vent to its century-old wrath."

57. In a 16 August 1999 interview with CNN, Kim Yong-sun, secretary of the KWP and a close associate of Kim Jong-il, suggested the missile launch could be delayed and transparently called for better relations between North Korea, the United States, and Japan. This was followed by a North Korean Foreign Ministry statement echoing the softer line and signaling the possibility of dealing with the Japanese abductees issue.



and Von Hippel (1999) estimate that the capital costs of rehabilitating the North Korean energy sector would be \$20 to \$50 billion over 20 years, though a more modest rural-oriented fix could be done for \$2 to \$3 billion over five years.

If the North Korean nuclear program and the Agreed Framework make little sense as energy programs, do they make sense from other perspectives? There is an extensive literature that speculates on North Korean motivations with regard to their nuclear program.<sup>58</sup> Several possible explanations have been put forward. The most straightforward is that the nuclear program was intended to deter the United States and South Korea. Mansourov (1995), for example, argues that the American bombing of Hiroshima and the quick way that US nuclear weapons brought Japan to surrender made an indelible impression on Kim Il-sung. Kim's respect for nuclear weapons grew into alarm upon learning that the Truman Administration had seriously considered using them against him during the Korean War. His response was to seek nuclear protection from the Soviet Union and China, but this comfort was undercut by his perception of Soviet abandonment of Cuba during the missile crisis. Mansourov argues that the decisive moment was in the late 1970s, when the North Korean government learned of the South's secret nuclear program.<sup>59</sup> It was one thing to face the United States, which might be expected to act with some restraint, but confronting a nuclear-armed South Korean military dictatorship was something else again. Kim decided that he needed his own nuclear capability. However, lacking an intercontinental delivery system capable of hitting the United States, Kim settled for medium-range ballistic missiles capable of striking South Korea and US forces in Japan.

Although Sigal (1998a) accepts the argument that the North Korean nuclear program may have begun as deterrence, he argues that by the late 1980s the North's leadership was more concerned about its failing economy and diplomatic isolation than about building bombs. Thus, the North's nuclear program and its subsequent negotiations should be regarded as part of an economic opening/reform process. To support this interpretation, he points to evidence that the North did not act expeditiously to develop weapons, a pattern of behavior that Mansourov (1995) ascribes to "various economic, financial, and scientific difficulties," including the inability to procure imported inputs and fund indigenous research and development activities. Nevertheless, Mansourov, too, concludes that: "In May 1992, the North Korean government had decided to abandon the military part of the nuclear program and had undertaken

---

58. See, for example, Mansourov (1995), Eberstadt (1997b), Takesada (1997), Bandow (1998), Kang (1998), and Sigal (1998a).

59. See Hayes (1993) and Englehardt (1995) on the South Korean nuclear program.

measures necessary to hide its previous actions in violation of the NPT” (Mansourov 1995, 27).

In fact, despite its collapsing economy, some regard the North Korean government strategy as masterful in that it has convincingly parlayed uncertainty about its nuclear and missile capabilities and converted a big hole in the ground at Kumchangri into major tangible benefits.<sup>60</sup> The problem with this view is its apparent inability to explain the suspected continuation of the North’s nuclear program or its demonstrated missile program. Indeed, a darker interpretation of the “bargaining chip” hypothesis is provided by Eberstadt (1997b, 1999b), who argues: “The North Korean regime *is* the North Korean nuclear problem, and unless its intentions change, which is unlikely, that problem will continue as long as the regime is in place” (1997b, 88, emphasis in the original). Indeed, Eberstadt goes on to argue that it is in the regime’s interests continually to upgrade its weapons of mass destruction and their threat of proliferation in order to extort “humanitarian” assistance from the world community.

This raises the missile issue, which, despite the separate negotiating framework, is inextricably linked to the nuclear issue.<sup>61</sup> The marriage of the missile and nuclear programs (or the chemical and biological weapons programs) would give the North Koreans a formidable tool with which to extort resources from the rest of the world. Without the nonconventional weapons programs, the missile program makes little sense—except possibly as a pure export good to customers who supply their own warheads.<sup>62</sup>

Defenders of the Agreed Framework in essence argue that the agreement was the best that could be made in a bad situation. In all probability the North Koreans had nuclear devices and the capacity for continually producing weapons-grade nuclear material from their existing reactors, posing not only a threat to their immediate neighbors, but also raising

---

60. See, for example, Cumings (1997). Commercial satellite photos released in January 2000 appear to show a very rudimentary launch site, leading some to question whether North Korea actually had the capacity for a second missile test in the summer of 1999 (Federation of American Scientists, <http://www.fas.org/nuke/guide/dprk/facility/nodong.htm>). US Administration sources have noted, however, that the previous launch site was equally primitive, and that North Korean launch preparations should not be compared with how the United States or Russia handle these things.

61. The multiplicity of negotiating forums (the nuclear talks, the missile talks, the Four Party talks, the negotiations over suspect nuclear sites, and bilateral negotiations over food) provides the North Koreans with numerous opportunities to extract resources from the international community.

62. On this point, in July 1998, Sigal (1998b) argued that missiles are worthless without testing, and that the failure of North Korea to test missiles is a signal that the program was not a viable option for either its own use or export; rather, the North Koreans were putting the program up for sale. Unfortunately, the firing across Japan would seem to put this line of argumentation to rest—unless it was the equivalent of a “test drive” for the assembled prospective buyers.

the likelihood of sales to other parts of the world. Other alternatives, such as economic sanctions or military strikes, would probably not receive the diplomatic support of neighboring countries and would be of questionable efficacy, in any event.<sup>63</sup>

Moreover, while the price extracted by the North Koreans appears high, this may be illusionary—the current North Korean regime is unlikely to outlast the KEDO reactors, and, in the end, the South Koreans will assume possession of the reactors and other infrastructural improvements for which they had largely footed the bill. In essence, the Agreed Framework is the best of bad alternatives, and, with time on our side, its temporizing nature need not be fatal.

Set against this is the notion that time may not be on our side, that North Korea may be pursuing a dual-track strategy of cooperating with the United States in dismantling its overt nuclear program (and being rewarded for doing so) while covertly continuing its nuclear weapons program and work on associated delivery systems (Drennan 1998, Armitage 1999). It may well be the case that the North Koreans have never abandoned their goal of achieving strategic deterrence against the United States and the unification of the peninsula on their terms. An intercontinental nuclear capability, together with a significant number of nuclear weapons to provide for a second-strike capability and a willingness to use them against the South, would be sufficient to alter the military balance on the Korean peninsula decisively. Kent Harrington, a former National Intelligence Officer for Asia, argues that: “Bent on achieving ultimate military power on the peninsula, North Korea has worked for 30 years to develop nuclear weapons. Its investment of resources, its risk-taking and its persistence make clear it does not intend to trade that goal for economic aid, political recognition or security guarantees. The historical record speaks for itself” (Harrington 1998). From this perspective, the Agreed Framework is at best a temporizing measure that could actually worsen any eventual confrontation (Kissinger 1994, Baker 1999).

This suggests at least four possible outcomes: successful implementation of the Agreed Framework or some modified form of the bargain; failure of the agreement due to either a North Korean breakout or provocative North Korean behavior and donor fatigue; failure of the agreement due to South Korean unwillingness to assume its back-loaded financial obligations to KEDO (for example, due to economic hardship); or collapse of the agreement through the collapse of the North Korean state. As will be argued in chapter 9, KEDO is unlikely to meet the target of completing the light-water reactors by 2003, both setting the stage for a confrontation, and, ironically, presenting the opportunity to reorient the Agreed Frame-

---

63. Future sanctions could only work if enthusiastically supported by China. This is only likely if China believes that North Korea is irredeemable and decides to throw its full backing to South Korea in anticipation of a South Korean takeover of the entire peninsula.

work in a more rational way. The stability of the North Korean regime presumably is tied to its ability to endure the famine that currently grips the country. The international community's response to that famine has been fundamentally conditioned on concerns about North Korea's weapons of mass destruction and its intercontinental delivery systems. The famine is the crisis to which we now turn.