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Famine and the Future of Food Security in North Korea

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Executive Summary

The food shortage in North Korea that evolved into a famine in the mid-1990s and persists today was the outcome of multiple factors, including agricultural policy, weather, politics, and economics. As many as 10 percent of the population perished in the famine, and as the food crisis continues, over six million North Koreans continue to face hunger today.

This report attempts to show how North Korea's agricultural and economic policies developed in response to a complex set of historical factors, including three previous periods of food shortage. These policies yielded more food in the short run, but their ultimate effect was lower productivity.

North Korean policy has long prioritized feeding all North Koreans; it has also sought to make the country food self-sufficient. For decades, North Korea was able to ensure that everyone had an adequate diet and access to basic goods and public services, such as education and health care. This was in spite of the fact that only 14 percent of North Korea's predominantly mountainous land is arable.

This report aims to help foreigners understand North Korea's insistence on food self-sufficiency by outlining North Korea's history and exploring the causes of its recent famine and the deep roots of its self-sufficiency or *juche* ideology. This report also assesses the current food situation in North Korea and explores three possible paths for North Korea to achieve greater food self-sufficiency: moving to a more sustainable model of agriculture; expanding trade via elimination of U.S. sanctions; and/or reunification with South Korea. Ultimately, this report calls on the international community to help North Koreans achieve true food security, not isolate, vilify, strong-arm, or exploit them.

Prologue: Worse than War

From the mid to late 1990s, famine killed as many as two million people in North Korea—nearly 10 percent of its population.¹ “It was worse than war,” was how one North Korean described the hungry years. The famine lasted from 1994 to 1998, but severe food shortages remain and millions of North Koreans continue to face hunger.

How did this industrialized nation, which at one point was a model of socialist development, come to suffer such a catastrophic and ongoing food crisis? How can North Korea’s food system be strengthened or reshaped to prevent more hunger and famine? This report seeks to answer these questions by tracing the development of the food crisis, discussing the recent history and present reality of food production in North Korea, assessing the challenges of food aid and market reforms, and suggesting ways North Korea can achieve food sovereignty.

Causes of Famine

The roots of North Korea’s famine—like those of all famines—are complex. Political and economic factors, climatic events, and certain characteristics of North Korea’s agricultural system all played a role.

The country’s slide toward famine in the 1990s began with diminishing grain production in the late 1980s. Up until the mid 1980s, North Korea “arguably produced enough food to feed its population,”² and even exceeded South Korea in food production. North Korea had tremendous pride in claiming some of the highest rice yields in the world—around seven tons per hectare. In 1984, North Korea sent 7,000 tons of food to South Korea when serious floods diminished South Korea’s harvests.³ But by 1987, food production started to decline as the country’s soils began to collapse after decades of industrial agriculture on often marginal lands.

According to Dr. Lee Suk of the Korea Institute for National Reunification, three earlier periods of food shortage (1945 to 1946, 1954 to 1955, and 1970 to 1973) resulted in fundamental institutional changes in North Korean agriculture, the accumulation of which contributed to the famine of the 1990s.⁴ Since 1946, the North Korean government sought to avoid food shortages

¹ Bruce Cumings, *North Korea: Another Country*, New York: The New Press, 2004, p.178. There has been much debate surrounding the actual number of victims, but one estimate using North Korean official statistics argues that the famine claimed 688,000 lives over a five-year period: see Lee Suk, *Food Shortages and Economic Institutions in the Democratic People’s Republic of Korea*, University of Warwick, Department of Economics, January 2003, p. 211.

² Randall Ireson, “Agriculture in the DPRK: Not Just About Food,” presentation at University of Wisconsin Symposium on North Korea’s Engagement with the Global Economy, April 2002.

³ Kim Wanbae, Professor, Seoul National University, interview in Seoul, August 2004.

⁴ Lee Suk, *Food Shortages and Economic Institutions in the Democratic People’s Republic of Korea*, University of Warwick, Department of Economics, January 2003, p. 7. Lee also found that that in each case

by increasing grain production, and it worked to increase grain production through five policy strategies. The first was to expand the amount of land used for food production. The second was to alter the crop composition to favor higher yielding grains. The third was to maximize agricultural inputs—fertilizers,



Rice paddy field

Photo: Joo Pilju Kim

farms machines, and so on. The fourth and fifth policies were intertwined: to introduce dense planting techniques and simultaneously to establish practices to prevent the problems associated with this form of agriculture.⁵ According to Lee, this forty-plus-year agricultural plan collapsed around 1987, when each of these strategies—which had previously increased grain production—began to actually harm productivity,⁶ as I will discuss below.

External shocks have also played their fair share in contributing to North Korea’s food crisis. One such shock, the disintegration of the Soviet Union and subsequent collapse of the socialist trading bloc, helped send North Korea’s agricultural system into a tailspin. With the collapse, North Korea lost its major supplier of oil: in 1990, North Korea imported 18.3 million barrels of oil from Russia, China, and Iran, but by 1996 it was able to import only 40 percent of that level.⁷ Between 1992 and 1996, North Korea’s energy consumption declined annually by 11 percent, mainly due to the end of oil imports from the former Soviet Union.⁸ The country’s farmers had grown to depend on imported petroleum not only to run their tractors but also to supply other essential agricultural inputs like fertilizers.⁹ According to Lee, fertilizer supply decreased by an average of 15.9 percent between 1987 and 1997.¹⁰ North Korean agriculture’s

of food shortage in North Korea, “external shocks, including natural disasters, war, political conflicts with neighboring countries and sudden population movements...led either to temporal [sic] collapses in agricultural production or unexpected increase in food demand or both.”

⁵ Lee, p. 178.

⁶ Lee, p. 162.

⁷ James William, David Von Hippel, and Peter Hayes, “Fuel and Famine: Rural Energy Crisis in the Democratic People’s Republic of Korea,” Institute on Global Conflict and Cooperation, Policy Paper 46, 2000.

⁸ Lee, p. 163.

⁹ Randall Ireson, April 2002.

¹⁰ Lee, p. 163.

dependence on imported oil was enough to catapult it into crisis,¹¹ but the sudden disruption in trade also made it impossible for North Korean farmers to replace or buy parts for farm equipment such as tractors, pumps, and threshers.¹² A joint UN Food and Agriculture Organization (FAO) and World Food Program (WFP) report in 1998 observed the following:

The highly mechanized DPR Korea agriculture faces a serious constraint as about four-fifths of motorized farm machinery and equipment is out of use due to obsolescence and lack of spare parts and fuel. During the field visits the Mission saw a large portion of tractors, transplanters, trucks and other farm machinery lying unused and unusable. In fact, because of non-availability of trucks, harvested paddy has been seen left on the fields in piles for long periods.¹³

North Korea's agricultural production was also intricately tied to its industrial production, which declined by more than 60 percent from 1992 to 1996.

In the mid 1990s, North Korea was struck by disaster after ecological disaster, starting with epic floods in 1995 and 1996. Don Oberdorfer, then a *Washington Post* correspondent, wrote, "On the sticky summer day of June 26, 1995, the skies over North Korea darkened. Rains began to pound the earth, rains that were heavy, steady, and unrelenting and that soon turned into a deluge of biblical proportions." Some areas got as much as eighteen inches of rain in one day. The rains from July and August caused a catastrophic flood that official statistics showed was the worst of the century.¹⁴ The heavy rainfall caused high tides to flood and back up the rivers in the western lowlands, affecting domestic energy and agricultural production. By 1996, 5.4 million people were displaced, 330,000 hectares of farmland destroyed, and 1.9 million tons of grain lost; damages totaled US\$15 billion.¹⁵ The amount of grain lost comprised about 17 percent of the previous year's production.¹⁶ This catastrophe prompted the North Korean government to launch an international appeal for food aid.¹⁷ The rains were followed by the worst drought in the century, which climate experts say correlated with the 1997 to 1998 El Niño—itself the worst in over 300 years. In 2000, drought struck Asia again, and North Korea, with only one harvest season, was hit hard. In 2001, yet another severe drought parched the earth, depleted reservoirs, and damaged irrigation systems.¹⁸

When climate conditions improved temporarily in 1998, production levels did not recover. Korea scholar Meredith Woo-Cumings contends this was because the country suffered

¹¹ Meredith Woo-Cumings, "The Political Ecology of Famine: The North Korean Catastrophe and Its Lessons," Asian Development Bank Institute, 2002, p. 24.

¹² Kim Wanbae, August 2004.

¹³ United Nations FAO/WFP, "Special Report—FAO/WFP Crop and Food Supply Assessment Mission to the Democratic People's Republic of Korea," November 12, 1998.

¹⁴ Lee, p. 143.

¹⁵ Woo-Cumings, p. 27.

¹⁶ Lee, p. 143.

¹⁷ Lee, p. 144.

¹⁸ Kim Wanbae, August 2004.

from environmental degradation, abuse of marginal lands, soil erosion, riverbed silting, and flooding due to deforestation.¹⁹ Much of this damage happened during, or was worsened by, floods and droughts. Thus inclement weather greatly impacted North Korea's food production during the worst famine years.

Farm Policy and the Roots of Famine

Some experts cite the socialist nature of North Korea's system of agriculture as a key factor in its food crisis. They argue that socialism's endemic lack of incentive to produce was an important factor in the country's food shortfall. Seoul National University professor Kim Wanbae, for example, argues that collective farms limit agricultural productivity because they restrict farmers' creative efforts and production drive. Under North Korea's collective farming structure, farmers are treated as workers who must only meet their required labor goals—thus the quality and quantity of their work may be diminished. Kim further argues that the division of labor on collective farms is less efficient than allowing one individual to do various stages of work—in contrast to the manufacturing sector, where task-divided work is more efficient.²⁰

While it's true that socialist systems by nature lack incentives, many analysts have noted that North Korean agriculture was very productive from 1973 to 1987. Lee Suk notes that “according to official announcements, the production increased [at] the annual rate of 4.62 percent, finally reaching 10 million metric tons in 1984 [which] had long been conceived as the



Barley harvest

Photo: Joo Pilju Kim

level [at] which the government could provide enough 'rice rations' to the whole population.”²¹ Although UN Food and Agriculture Organization (FAO) statistics are slightly lower than the official ones, they still suggest that this period saw the greatest gains in grain production. Also, some of North Korea's most

productive farms in terms of yield have been industrialized farms, which use a high degree of

¹⁹ Woo-Cumings, p. 28.

²⁰ Kim Wanbae, August 2004.

²¹ Lee, p. 158.

division of labor. Thus, as Meredith Woo-Cumings puts it, “a generic explanation—’lack of incentives’—cannot account for the North Korean fiascos in the 1990s.”²² However, as Lee Suk has argued, North Korea’s highly industrialized, historically productive farms and its yield-oriented farm policies may themselves give a better clue to the sharp decline in productivity that preceded the famine. These policies had antecedents reaching back decades before the Koreans were partitioned.

Beginning during its occupation by Japan (1910 to 1945), Korea adopted an industrial agriculture model from the Japanese,²³ who introduced new seed varieties in Korea in the early 1900s. The new seeds increased yields per hectare, but began Korean agriculture’s addiction to the fertilizer and pesticides that over time have depleted the quality and fertility of Korea’s soils. For many years, North and South Korea’s use of fertilizer was so extensive that the Koreans became two of the heaviest users in the world (behind only the Netherlands and in some years China and Japan²⁴).

After partition, the new country of North Korea thus already had a history of policy and practice that emphasized industrial agriculture. As previously noted, from 1946 to 1987, North Korea used five policies to increase the volume of grain production: 1) increasing farmed land; 2) altering crop composition to favor higher yielding grains; 3) maximizing agricultural inputs; 4) introducing dense planting; and 5) establishing practices to prevent problems resulting from dense planting.²⁵ Lee Suk argues that while “[i]t is difficult to assess how successful those new agricultural practices were, nevertheless there are...good reasons to believe that at least they did not fail immediately.”²⁶ However, it seems evident that all of these policies ultimately proved unsustainable and in fact created long-term structural problems for North Korean food production.

Increasing Farmed Land

For over forty years following liberation from Japanese colonialism and partition from South Korea, the North Korean government made continuous efforts to increase the area of land available to grow grains. North Korea is a very mountainous country, with only about 14 percent of its land potentially usable for agriculture. In 1946, the government launched a massive New West Coastline Land Expansion Project, which was followed in succeeding decades by other

²² Woo-Cumings, p. 24.

²³ John Feffer, interview, September 2004.

²⁴ Heather Smith and Yiping Huang, “Achieving Food Security in North Korea,” LNCV-Korean Peninsula: Enhancing Stability and International Dialogue, Rome, June 1–2, 2000.

²⁵ Lee, p. 178.

²⁶ Lee, p. 162.

mountain land cultivation projects. The government also abolished individual land ownership in order to increase actual sown land. As a result of this policy, between 1946 and 1975, farmed land increased by over 30 percent.²⁷

In 1974, the government launched the mass campaign of “finding 300 thousand *chongbo* of new land” (one *chongbo* = .99 hectares), and in 1985 initiated the “terraced field cultivating campaign” to transform mountainous areas to terraced fields.²⁸ In the latter half of the 1980s, North Korea initiated “Kim Il Sung Juche Agriculture” to solve the drastic decline in food production. Under this policy, the state encouraged farmers to cultivate mountainous lands, reclaim land by draining it, and plant personal gardens. Except in the case of city residents’ personal gardens, the policy largely failed to improve food production.

According to Kim Wanbae, among other analysts, these policies led to deforestation, soil loss, and further decreases in production levels. For example, when the floods came in the mid 1990s, North Koreans were unable to prevent severe erosion in mountainous areas where land had been flattened and deforested for cultivation.²⁹

Altering Grain Composition

The government also sought to increase grain yields by moving the nation’s crop composition from a diversity of grains towards rice and maize, because these were the highest yielding crops. In 1946, 23 percent of the total grain-sown area went to growing rice and 10 percent to growing maize. By 1973 maize comprised 40 percent and rice 37 percent of grain-sown land.³⁰ For a nation hell-bent on food self-sufficiency, this focus on high-yield monocropping seemed to make perfect sense.

But the problems with pursuing mainly rice and maize cultivation were threefold. First, North Korea’s mountainous geography made it difficult to expand paddy fields for rice production. Second, existing farming styles made farmers reluctant to grow maize because double- and triple-cropping of other grains was crucial to prevent soil exhaustion, and maize was not suitable for double-cropping. Third, other grains were much easier to cultivate because they do not require massive amounts of fertilizer, which maize does.³¹

The North Korean government dealt with these challenges by depriving farm households of the right to select which crops they would grow, by encouraging local agricultural agencies to pursue regional self-sufficiency through high grain yields, and by designating agricultural areas

²⁷ Lee, p. 153.

²⁸ Lee, p. 158.

²⁹ Kim Wanbae, August 2004.

³⁰ Lee, p. 154.

³¹ Lee, p. 155.

as either flat, intermediate, or mountainous. Flat lands were to be planted with rice, intermediate with a combination of rice and maize, and mountainous areas with other grains.³²

Ironically, the net effect of this web of policies has been a decline in productivity as North Korean soils degraded under these attempts to boost productivity. Double-cropping wheat and barley after rice and maize (cereal after cereal) has contributed to exhausting soil fertility. The below-optimum condition of the soil has now forced North Koreans to plant seed varieties with lower yields.³³

Maximizing Inputs

The third policy North Korea used to increase grain production was maximizing inputs, in particular increasing the water supply for rice production and applying chemical fertilizers for maize cultivation. Agricultural machinery was also needed, especially following the U.S.–Korean War, when labor was scarce. Thus, the North Korean government set out to increase grain production through four major agricultural inputs: irrigation, chemicalization (i.e., fertilizers), mechanization, and electrification.³⁴

In 1964, North Korea instituted a “rural technical revolution” to rapidly increase food production through these four inputs. North Korea’s irrigation system networked waterways for draining and irrigation, which protected farmlands from drought and flood and increased crop acreage in marginal lands, like terraced hillside fields. By the late 1960s, North Korea claimed to have cultivated 1.4 million hectares of new land.³⁵ Electricity made the irrigation network possible, and it was also used for threshing machines and to light rural homes. Mechanization—the widespread usage of tractors, rice transplanters, and threshing machines—freed up farm labor for industrial production. North Korea also massively chemicalized its agriculture, replacing organic manures and traditional crop rotation patterns with chemical fertilizers and pesticides.³⁶

Through the policies of altering crop composition, land reclamation, and maximizing inputs, North Korean agricultural output grew by more than 100 times from 1946 to 1973, and the consumption of chemical fertilizers grew by eight times during the same period. From 1949 to 1960, the amount of irrigated land increased fivefold, and the number of tractors increased a hundredfold from 1953 to 1974. By 1974, all farm households had electricity.³⁷

³² Lee, p. 155.

³³ Ireson, April 2002.

³⁴ Lee, p. 156.

³⁵ Woo-Cumings, p. 25.

³⁶ Ireson, April 2002.

³⁷ Lee, p. 158.

The beneficial effects of these policies were clearly felt in North Korea between 1973 and 1987, when grain production was at its apex. Because of the policies' success in increasing yields, the government intensified them. During this period, more land was used to cultivate rice and maize, until 43 percent of grain-sown land was for rice and 42 percent for maize. Also during this period, fertilizer use increased by 78 percent, irrigated areas grew by 65 percent, and the number of tractors tripled.³⁸

North Korea's dramatic decline in nutrient inputs to its soils in recent years is known to be among the key factors leading to the decline in crop yields.³⁹ Yet the country's soils have been badly damaged by many years of artificially high productivity. After an overseas study tour, one North Korean senior agricultural official acknowledged realizing that "centrally mandated government policies on fertilizer application had destroyed North Korean soils and it would take twenty years to rebuild them."⁴⁰

Dense Planting and Seed Selection

Other new policies aimed at increasing productivity involved dense planting and simultaneously preventing the problems arising from dense planting. These policies aimed to



Pyongyang farm cooperative

Photo: Christine Ahn

increase grain production in areas with limited land. Cooperative farms were forced to increase the number of seeds planted per hectare from about 70,000 seeds to 100,000 seeds. By comparison, most other countries were planting 50,000 seeds per hectare. The problems with dense planting are that it prevents plants from absorbing

enough sunshine and accelerates soil depletion, and that a densely planted system needs more intensive care, which is difficult to supply on large-scale industrial farms.

Even though a dense planting policy had failed in China following the great famine of 1959 to 1961, North Korea decided to pursue dense planting the DPRK way. To address the challenges of enforced maize production in mountainous areas with severe weather and short

³⁸ Lee, p. 159.

³⁹ Woo-Cumings, p. 26.

⁴⁰ Edward P. Reed, "Unlikely Partners in the Quest for Juche: Humanitarian Aid Agencies in North Korea," paper presented at the "Towards a Peaceful Resolution with North Korea: Creating a New International Engagement Framework," Washington, DC: American Enterprise Institute, February 2004, p. 9.

growing seasons, North Korea set out to develop hardier new seed varieties suitable for dense planting, importing a wide range of seed varieties from the Soviet Union and China and breeding them with traditional Korean varieties. They also invested heavily in a land research project to test new varieties under different land and weather conditions. Following these experiments, most existing rice and maize varieties were replaced with new ones in the mid to late 1970s. The new varieties were not without fault, however. According to Kim Wanbae, the seed varieties North Koreans designed yielded more output but failed to select for resistance to insects and diseases specific to each region, an oversight that actually imperiled these seeds' productivity in the long run.⁴¹

In addition to breeding new seed varieties, the government also instituted standards of planting and fertilizing to increase plant nutrients, such as sunshine, and prevent disease, and mandated that cooperative farms replace their soils regularly, plough after harvest, and produce organic fertilizer.⁴² All these techniques were meant to temper the problems brought about by dense planting. The policy of dense planting is still pursued in North Korea.

Government Reactions to the Food Crisis

The first sign that North Korea was enduring food shortages was the government's decision in 1992 to reduce Public Distribution System⁴³ (PDS) rations, which had been consistent since 1973, by 10 percent.⁴⁴ Another indicator was its balance of trade in grain: in 1986, North Korea imported 153,000 metric tons of grain; in 1987, its net imports tripled to 438,000 metric tons.⁴⁵ By 1991, North Korea, a nation that prided itself on self-reliance as a means to resist foreign domination, had to launch the "Let's Eat Two Meals a Day" public campaign.⁴⁶ The following year, PDS rations were reduced again by 10 percent, except for army and heavy industrial workers.⁴⁷ The North Korean government also responded to looming food shortages with economic reforms, such as allowing industrial workers to privately cultivate small plots of land near their worksites, encouraging state firms to allocate work hours to their workers for farming, and enabling farmers to increase their private plots and trade crops in farmer's markets.

⁴¹ Kim Wanbae, August 2004.

⁴² Lee, p. 160.

⁴³ The Public Distribution System is a government program designed to ensure all North Koreans an adequate amount of calories per day, depending on their occupation and family size.

⁴⁴ Lee, p. 141, citing Oh Gyung Chan, *North Korea's Food Problem Could Be Solved*, Daewangsa, 1997, p. 145.

⁴⁵ Lee, p. 141.

⁴⁶ Smith and Huang.

⁴⁷ Lee, p. 142.

The government also opened diplomatic relations with South Asian countries such as Thailand and Vietnam in 1993 in order to obtain emergency food shipments from these countries.⁴⁸

North Korea lacked the foreign currency to buy food on the global market, and its remaining trading partners did not grant easy terms. In 1993, China announced that all commerce with North Korea would be in hard currency, and the following year cut its “friendship grain”—grain sold at reduced prices—from 800,000 tons to 300,000 tons.⁴⁹ The confluence of all these developments—sharply declining agricultural and industrial productivity and a withering of its ability to trade—led the government to announce in December 1993 that it would adopt new policies to cope with the food shortages under the slogan “agriculture first, light industry first, and foreign trade first.”⁵⁰

By 1994, the PDS collapsed in four northern provinces—North and South Hamgyung, Ryanggang, and Kangwon—and the government allegedly prohibited food shipments to these provinces.⁵¹ This was the year that many North Korean refugees began to flee to China and other neighboring countries in search of food. However, the DPRK Agricultural Commission denied the existence of massive food shortages, asserting that reports by the Western media were intended as a “wicked deception to degrade the socialist image of the DPRK.”⁵² The North Korean government may have been seeking to project a less vulnerable image to the outside world because of emerging political instability caused by the death of Kim Il Sung in 1994 and the escalating tensions with the U.S.

Nevertheless, many researchers argue that North Korea’s famine was a “non-food availability decline famine,” a modern economics term referring to a famine that is caused by an individual’s inability to command food changes in the course of a famine versus one caused by total food nonavailability.⁵³

One researcher, Han Seung Hun, writes that “in the late 1990s, the authorities primarily supplied food to special classes such as army, high party and government officials and Pyongyang residents,” and that small amounts of food were provided “to ordinary people irregularly.” Han asserts that tremendous resources were “wasted for military build-ups and political propaganda” and that the closeknit nature of North Korean society “blocked the opportunities to reduce the damage of the famine.” As a result, the North Korean government

⁴⁸ Lee, p. 142.

⁴⁹ Dale Allen Pfeiffer, “Drawing Lessons from Experience: The Agricultural Crises in North Korea and Cuba,” the Wilderness Publications, November 17, 2003. Available on the web at: http://www.fromthewilderness.com/free/ww3/111703_korea_cuba_1.html.

⁵⁰ Lee, p. 142.

⁵¹ Lee, p. 142, citing Andrew Natsios, “The Politics of Famine in North Korea,” United States Institute for Peace Special Report, 1999.

⁵² Lee, pp. 142–143.

⁵³ Lee, p. 172.

was able to downplay the gravity of the famine to outside audiences, which in turn hindered aid efforts.⁵⁴

These assertions imply that the North Korean government controlled the famine in North Korea because it failed to protect certain social groups. Lee Suk, however, argues that the North Korean government took measures to respond to the looming food crisis by increasing grain imports early on and appealing for international food aid, opening its hermetic borders to foreign aid agencies for the first time in its history. Citing a 1996 FAO/WFP report, Lee highlights evidence that the North Korean government may have equitably distributed food during the crisis:

Previous FAO/WFO assessments have indicated that the Korea DPR faced a large cereal deficit and severe food supply problems in 1996. Perhaps the most important reason that there was no wide scale famine during the year was an effective Public Distribution System, which ensured food, albeit at a much reduced level, to the entire population. In Korea DPR the effects of food shortages have been uniformly spread over the population and the PDS has proven itself to be a highly effective channel for food assistance...in particular rations for children were not lowered throughout the period.⁵⁵

There is no consensus over which populations of North Koreans suffered the most from famine. Although I only spent two weeks in North Korea in 2004, and only visited a few cities outside of Pyongyang, such as Nampo, Kaesong, Myohyangsan, and Mt. Baekdusan, it was clear to me that most North Koreans were suffering from shortages in food, medicine, and electricity. No one seemed immune, not even the revered soldiers or the general at the DMZ, whose baggy uniforms hung loosely on their thin bodies.

Land Reform, War, and the Development of North Korean Agriculture

For much of the twentieth century, Korean seed grains continually produced higher yields as long as enough fertilizer was applied. At a certain point, however, the cost of additional fertilizer became greater than the additional grain produced was worth.⁵⁶ Why did North Korea's agriculturalists pursue high yields beyond the point where the additional grain could pay for the inputs (fertilizer and so on) needed to produce it? In other countries pursuing monocrop industrial agriculture—such as the U.S.—production decisions are based on maximization of profit, irrespective of environmental or social costs. But North Korean government policy was to

⁵⁴ Han Seung Hun, "North Korean Famine from the Viewpoint of Distribution," KDI North Korean Economic Review, January 2000, pp.11–12.

⁵⁵ United Nations Food and Agriculture Organization and World Food Program, "Special Report: FAO/WFP Crop and Food Supply Assessment Mission to the Democratic People's Republic of Korea," December 6, 1996.

⁵⁶ Ireson.

provide farmers with ample supplies of fertilizer and other inputs without considering cost or efficiency, because the government's goal was to achieve self-sufficiency in food production.

To the foreign eye, North Korea's insistence on food self-sufficiency at all costs seems difficult to fathom (and, perhaps, doomed to fail given that 80 percent of North Korea's 12 million hectares of land is mountainous, with only 14 percent arable land⁵⁷). In order to understand why food self-sufficiency is such a central objective, it helps to know something of both the history of North Korea's agricultural development and the concepts of *juche* and *chajusong*, which drove socialist development in North Korea.

Juche entails a combination of self-reliance, self-sufficiency, and self-confidence, while *chajusong* stresses the responsibility of the individual over his or her life. Together, they are also



Farmer at a Pyongyang cooperative

Photo: Christine Ahn

understood as national or ethnic independence, including an independent economy—the opposite of serving and relying upon foreign powers. Kim Il Sung argued that North Korea should not become a “plaything of great powers,” and that “if too much stress is laid on foreign assistance

or an attempt is made to rely entirely on others, it will cause people to lose faith in their own strength and neglect their endeavors to tap their own inner resources of their own country. Then, it will be impossible to succeed in building a sovereign, independent state.”⁵⁸

In a 1969 interview, Kim Il Sung gave an example of applying the *juche* ideology in building blast furnaces:

When we were rebuilding and constructing blast furnaces soon after the armistice, we had no technicians and were short of equipment and materials. To make things easy, we would have had to invite foreign technicians and procure equipment from abroad. But we had not enough money to do so at that time. So, we took bold measures. We provisionally graduated the third-year students of the technical college in advance and asked them to design and build furnaces. There were about 200 of them, and they worked hard day and night and succeeded in building excellent furnaces in a little more than a year.⁵⁹

⁵⁷ Lee, p. 11.

⁵⁸ Cheryl Payer, *The Debt Trap: The IMF and the Third World*, London: Penguin Books, 1974, p. 206.

⁵⁹ Payer, p. 223.

North Koreans have never eschewed foreign assistance and the need for trade, they just decided that they did not want to become hostage to foreign powers or become dependent on foreign assistance. Twentieth-century Korean history amply demonstrates why this attitude might have arisen.

For thirty-five years, from 1910 to 1945, Japan occupied Korea. During occupation, Korea developed rapidly. In the North, heavy industries aided Japan's expansion into Manchuria, and the South exported light industrial products and rice to Japan. Inequality was severe, as 46,000 landlords, comprising just 4.8 percent of the agricultural households, owned 56.7 percent of the land.⁶⁰

By the 1930s, an anti-Japanese guerilla movement had emerged; this later became the united national front of workers, peasants, and students that led a democratic revolution throughout the Korean peninsula at the end of World War II. However, days before Korean liberation from Japanese rule on August 15, 1945, U.S. government officials—without consultation with the Koreans and with acquiescence from the Soviets—unilaterally marked the 38th parallel as a “temporary” division, positioning the nation's capital, Seoul, under U.S. control. The northern half under Soviet control became the Democratic People's Republic of Korea, or DPRK. This division was supposed to be for five years until a unified government could be agreed upon. Those opposed to communism, such as wealthy landowners and other elites, fled south, and those remaining either opted to participate in the reforms or were relocated within North Korea.

In the newly separate North, the North Korean Provisional People's Committee (NKPPC), a Soviet-approved governing body, was established in February 1946. . The NKPPC initiated many progressive social reforms, including land reform, labor, and gender equity laws, and the nationalization of several industries. Land reform in particular was critical to the socialist revolutionary tasks of overthrowing the ruling class and enlisting the political participation of the peasants. Koreans were ripe for land reform in the mid 1940s because of the unfavorable economic conditions they had inherited from the Japanese: over 70 percent of farm households were not food self-sufficient.⁶¹

In the spring of 1946, North Korea carried out “the most rapid and thoroughgoing land redistribution efforts in Korean history.”⁶² According to historian Charles Armstrong, land reform in North Korea was swift and relatively nonviolent because of its moderate policy of

⁶⁰ S. J. Noumoff, “The struggle for revolutionary authenticity: The experience of the DPRK,” *Journal of Contemporary Asia*, Vol. 9:1, 1979, pp. 27–52.

⁶¹ Lee, p. 11.

⁶² Charles Armstrong, *The North Korean Revolution, 1945–1950*, Cornell University Press, 2003, p. 77.

redistributing land to the farmer versus an immediate state collectivization, and because South Korea gave former landlords and other dissidents refuge.

Between March and June 1946, land reform redistributed nearly 50 percent of total farmland in the north.⁶³ Land was confiscated from former Japanese holdings, known collaborators, absentee landlords, and religious organizations and redistributed to agricultural laborers, landless tenants, and peasants based on the “work ability” of their families. Land ownership was capped at five chongbo, which reduced the average size of land owned to 2.1 chongbo (two hectares). Almost one million hectares of land were redistributed to approximately 725,000 households.⁶⁴ Within two months, 70 percent of harvest yields went to tenants and 30 percent to landlords.⁶⁵ The reforms also yielded more food: from 1946 to 1949, the cultivated area of land grew 7 percent, gross agricultural output rose 51 percent, grain production increased 41 percent, livestock production grew 85 percent, and silk production rose 139 percent. Even workers’ wages grew by 53 percent.⁶⁶

From 1945 to 1953, North Korean agriculture comprised mainly farm households that owned on average 1.6 chongbo of land and farmed for private consumption or for market.⁶⁷ During this period, government institutions overseeing food and agriculture, the Ministry of Food Administration (MFA) and the Ministry of Agriculture (MOA), were established. The MFA was charged with ensuring that adequate food was grown to supply enough food to feed all North Koreans and support the country’s rapid industrial development. Its means included an agricultural tax of 25 percent of the harvest, a system whereby industrial goods were traded for agricultural products, and a state food rationing system to feed industrial workers.⁶⁸ The remaining harvest after taxes was traded in farmer’s markets. The MOA was charged with increasing agricultural resources and productivity, and it achieved this by monopolizing agricultural resources such as fertilizer, water, farm equipment, and so on. It imposed production quotas on villages and farm households and encouraged the formation of production teams and labor pools, and the sharing of animals and farm tools. These policies helped lay the foundation for North Korea’s evolving socialist system.

During the 1950 to 1953 war, North Korea was bombed to bits. The U.S. military’s mission in the North, called the “scorched earth” policy, exhibited unprecedented brutality.

⁶³ Lee, p. 29.

⁶⁴ Pak Ky-Hyuk, “Agricultural policy and development in North Korea,” in *North Korea Today: Strategic and Domestic Issues*, ed. by Robert Scalapino and Jun-Yop Kim, Berkeley: Center for Korean Studies, Institute of East Asian Studies, University of California, 1983.

⁶⁵ Armstrong, p. 76.

⁶⁶ Kim Youn-Soo, *The Economy of the Korean Democratic People’s Republic, 1945-1977: Economic policy and foreign trade relations with Europe*, Kiel: German Korea-Studies Group, 1979, pp. 30–31.

⁶⁷ Lee, p. 29.

⁶⁸ Lee, p. 29.

Napalm, which was invented in WWII, was first used against North Korea, compelling Winston Churchill to tell Washington that “no one contemplated that [napalm] would be ‘splashed’ all over a civilian population.”⁶⁹ According to historian Bruce Cumings, “Bomb damage assessment at the armistice revealed that eighteen of twenty-two major cities had been at least half obliterated.”⁷⁰ Major industrial cities, including the capitol city, Pyongyang, were over 75 percent destroyed. “What was left of the population survived in caves,”⁷¹ writes Cumings. The U.S. Air Force destroyed irrigation dams and other agricultural facilities, ruining 75 percent of North Korea’s food production. (When Nazis destroyed much smaller facilities in Holland during WWII, it was considered a war crime under international law.)⁷²

In 1953, after the temporary armistice was signed, Koreans in the North set out to reconstruct their devastated nation. They invested equally in industrial and agricultural development, with a commitment to cooperatives in all areas of economic life. Before the nation was divided, the South was its breadbasket—only 14 percent of North Korea’s mostly mountainous land was suitable for agriculture—so the North faced challenges in its goal of achieving self-sufficiency in food production. North Korean agriculture was also necessary to fuel North Korean industrialization: farming needed to provide an ample supply of cheap food, produce raw materials for industry, generate foreign exchange earnings, and release a regular supply of labor to urban areas.⁷³



Present-day Pyongyang Photo: Christine Ahn

In 1949, the North Korean government announced the nation would move toward collectivized farming, but the policy was not implemented until after the war.⁷⁴ From 1953 to 1958, North Korean agriculture was collectivized.⁷⁵ In 1953, private farms produced 92 percent of agricultural goods. By 1959, all farms had been collectivized into cooperatives and state

⁶⁹ Cumings, p. 31.

⁷⁰ Cumings, p. 30.

⁷¹ Cumings, p. 27.

⁷² Cumings, p. 29.

⁷³ David Barkin, *Food Self-Sufficiency in North Korea*, Oakland: Food First Books, 1986.

⁷⁴ Armstrong, p. 86.

⁷⁵ Lee, p. 30.

farms.⁷⁶ Following the U.S.–Korean War, “nearly 70 percent of farm households fell into the category of poor farmers who could not carry on farming activities without the help of the government.”⁷⁷ Collectives helped North Koreans organize and maximize the use of their limited resources after the massively destructive U.S. war, and they later became a pillar of North Korea’s ideological commitment to socialism.

North Korea’s postwar agricultural policy, known as *chongsanri* (named after a cooperative farm Kim Il Sung visited), was established in response to the rural food crisis in 1954 and 1955.⁷⁸ Chongsanri promoted communal cooperation and political conditioning of the masses.⁷⁹ Specifically, state grain marketing institutions were created, and private grain production and trade were prohibited. Farmer’s markets still existed, but they were officially discouraged and only nongrain items were sold in them. State food rationing was expanded to the entire population and a new agricultural management system was established which decentralized responsibility to provincial administrators. Cooperative farms had to reach production targets. Kim Il Sung explained the importance of this agenda: “The remnants of feudalism and capitalism still lie deeply embedded in the countryside. Unless challenged, these remnants would threaten the socialist system itself.”

Despite the country’s disadvantages in food production—mountainous land, high elevation, and a cool climate—North Korea doubled its agricultural output between 1961 and 1988.⁸⁰ This was a massive effort that required tremendous coordination, which is well described by Randall Ireson, an agriculturalist who has visited North Korea over a dozen times:

Researchers had to breed rice and corn varieties which responded to high fertilizer use. Planting dates for irrigated crops needed to be coordinated across many farms in order to effectively distribute irrigation water. A heavy industrial sector was needed to produce the electric motors, pumps, pipe, tires, tractors and all the rest. And of course a coordinated government system for collecting, storing and distributing grain (the Public Distribution System) was needed to move food from the rural to the urban three-fifths of North Koreans. Substantial infrastructure was also needed to move food from the surplus southwest to the east and northeast deficit areas. So far as we know, this was accomplished successfully through the 1980s.⁸¹

By 1972, two *New York Times* writers wrote with astonishment that this country, the size of Mississippi, had developed a “well organized and highly industrialized socialist economy,

⁷⁶ Barkin.

⁷⁷ Lee, p. 30.

⁷⁸ Lee, p. 30.

⁷⁹ Koo Bon Ho and Jo Dongho, “Comparative analysis of the North and South Korean economies,” in *Economic Systems in South and North Korea*, ed. by Cho Lee-Jay and Kim Yoon Hyung, Seoul: Korea Development Institute, 1995.

⁸⁰ Woo-Cumings, p. 25.

⁸¹ Ireson, April 2002.

largely self-sufficient, with a disciplined and productive workforce.”⁸² North Korea’s green belts of maize around meticulously terraced fields were the pride of self-reliant, socialist North Korea.

Famine and the Politics of Food Aid

In May 1995, when the North Korean government admitted that it was enduring a food shortage, the proud country was obliged to ask its historical enemies for food assistance. By June 1995, North Korea obtained 150,000 metric tons of grain gratis from South Korea, and 150,000 metric tons of grain gratis from Japan, with another 150,000 on concessional terms. In July, the North Korean government announced that this food had been donated and also made an appeal to the United States.⁸³ By August, the North Korean government appealed to the international community for food aid, prompting a visit from the UN’s FAO and WFP, which found that 2.1 million children and 500,000 pregnant women were near starving.⁸⁴ This finding brought forth the first pledge of food aid from the WFP, of 140,000 tons of rice.

“Humanitarian aid” has become one of the phrases most associated with North Korea since the mid 1990s famine, and many players have been involved in the aid effort. Humanitarian aid has come from United Nations organizations, international organizations, and individual nations—including South Korea, the United States, Japan, China, and European nations—as well as South Korean and foreign nongovernmental organizations (NGOs). Types of aid have included “food aid, agricultural and forest restoration, livestock aid, public health and health care aid, and educational assistance, among others.”⁸⁵

Overall, UN organizations have been the highest donors of food aid to North Korea (contributing nearly half of the US\$2.1 billion donated between 1995 and 2001), followed by direct aid from individual governments and international NGOs. Of the UN agencies that send aid to North Korea, the WFP distributes the lion’s share—82 percent.⁸⁶

South Korea has given the most **direct** aid of any individual country, accounting for 28 percent of the aid from the international community, and aid from South Korea has been rising. Between 1995 to 2001, South Korea gave US\$450 million dollars in aid to North Korea. There are two reasons for South Korea to give aid to North Korea: one is as a humanitarian gesture and a felt obligation to help fellow Koreans; the second is that aid is a practical way to improve inter-Korea relations. The South Korean government primarily sends products with Korean labels and

⁸² Payer, p. 204.

⁸³ Lee, p. 143.

⁸⁴ Lee, p. 144.

⁸⁵ Hong, Yang-Ho, “Humanitarian Aid Toward North Korea: A Global Peace-Building Process,” *East Asian Review*, Institute for East Asian Studies, Winter 2001, pp. 21–40. Available on the web at http://www.ieas.or.kr/vol13_4/13_4_2.pdf.

⁸⁶ Hong.

items that could not be used for military purposes. Originally, North Korean authorities sought to conceal the fact that donations were coming from South Korea (mostly to maintain its pride in the idea that the North was faring better than the South), but this has changed recently.⁸⁷

Other countries, including the United States, give food aid predominantly via a UN agency, such as the WFP, or through NGOs. Between 1995 and 2001, the United States gave a total of US\$550 million in direct and UN-distributed aid to North Korea.⁸⁸ Japan gave US\$255 million dollars, China US\$215.6 million dollars, and the EU US\$182.9 million in aid to North Korea. During this period, the international community donated US\$989 million through the UN organizations, chiefly the WFP.

Still, food was not delivered on a large scale when the North Koreans needed it the most, but only when the height of the famine was over. In explaining why so many North Koreans died despite massive amounts of food aid, Andrew Natsios, current head of the U.S. Agency for International Development, writes that “The timing of the pledges and deliveries did not match the peak period of the famine.”⁸⁹ WFP donations to North Korea increased from 21,000 tons of food in 1995 to 70,000 tons in 1996. After 1997, when the worst of the famine had begun to subside, the amount of food support rose dramatically: 400,000 tons were sent through the WFP between 1997 and 1998, 600,000 tons from 1998 to 1999, 876,933 tons between 1999 and 2000, and 733,834 tons between January 2001 to October 2001. By the end of the 1990s, WFP operations in North Korea sustained eight million people.⁹⁰

Since 2001, however, there has been a sharp decrease in food aid donations to North Korea, despite the sustained need for food. The United States has reduced its donations by 80 percent.⁹¹ According to WFP figures, North Korea needs US\$171.2 million in food aid, but as of October 11, 2004, only 54.3 percent of the need had been met. Of the ten largest hunger crises worldwide in 2004, North Korea came fourth—after Iraq, Tanzania, and Bangladesh—in funding shortfalls for food aid.⁹²

The food shortage situation began to improve in 1998, but North Korea was still in need of foreign aid. By 1998, the limitations of food aid in helping North Korea deal with ongoing food shortages crystallized and, in effect, international aid shifted toward long-term agricultural

⁸⁷ Hong

⁸⁸ Hong.

⁸⁹ Andrew Natsios, “The Politics of Famine in North Korea,” United States Institute of Peace, August 2, 1999, p. 8.

⁹⁰ Hong.

⁹¹ Jonathan Watts, “Aid Programme Runs Out of Food for North Korea,” *The Guardian*, February 10, 2004. Available on the web at <http://www.guardian.co.uk/korea/article/0,2763,1144573,00.html>.

⁹² Global Policy Forum, “Funding Shortfalls for the Ten Largest Hunger Crises in 2004.” Available on the web at <http://www.globalpolicy.org/socecon/hunger/tables/2004/largestcrises>.

recovery.⁹³ In addition to emergency relief supplies like food, cooking oil, powdered milk, and sugar, items such as clothing, blankets, seeds, fertilizer, pesticides, vinyl covering, farming tools, livestock, medical supplies and equipment, nursery plants, and educational tools and materials were now also being sent. In 1997, North Korea requested assistance with agricultural recovery and environmental protection, arguing that a large-scale development program would help them transition to stabilized food production levels so that they would no longer need food aid.⁹⁴

While food aid should not be used as a long-term recovery strategy, it has been undeniably helpful in the short term in North Korea. A 2002 study by UNICEF confirmed that food aid was reaching the most vulnerable North Koreans. From 1998 to 2002, the number of underweight children dropped by two-thirds, acute malnutrition was cut almost in half, and chronic malnutrition dropped by one-third.⁹⁵ Such gains are what the citizens of donor nations hope for when they advocate for food aid. But donor governments may have other, less benign objectives.

The primary objective of U.S. food aid is, and always has been, to preserve United States security. Robert Gallucci, the lead U.S. ambassador who negotiated the 1994 Agreed Framework cautioned that linking policy issues to humanitarian assistance is “bad ethically, morally and...politically.”⁹⁶ Yet the two have been long inextricably linked under U.S. policy—perhaps more than ever since September 2001. Aid has always been a political tool used to control the behavior of third world countries, and was used to buy their cooperation during the Cold War. At the end of the Cold War, food aid turned into a means for finding new markets for U.S. agribusiness and for dumping surplus grains (since it costs the United States US\$1 million a day to store surplus food). Although food aid is sometimes needed for people’s survival, as in the case of North Korea, it can also destroy the local agricultural markets of recipient economies when dumped food puts local farmers out of business, and the people of a region become dependent on external sources of food for survival.

According to some analysts, although the West claims that food aid to North Korea has come without political strings attached, food and fertilizer have undoubtedly been used to gain concessions from the North Korean government. According to Hong Yang-Ho, former director-general for humanitarian affairs at South Korea’s unification ministry, “In the case of the United States, humanitarian aid has been provided as a result of UN organizations’ appeal; at other

⁹³ Lee, p. 147.

⁹⁴ Hong.

⁹⁵ UNICEF, “Analysis of the Situation of Children and Women in the Democratic People’s Republic of Korea,” October 2003. Available on the web at <http://www.unicef.org/dprk/situationanalysis.pdf>.

⁹⁶ Timothy J. Min, II, “Food Shortage in North Korea: Humanitarian Aid Versus Policy Objectives,” Human Rights Brief, The Center for Human Rights and Humanitarian Law at Washington College of Law, American University, 1996.

times, the aid was given either in exchange for accepting the expansion of U.S. security measures or as an outcome of political bargaining.”⁹⁷ In a 1999 report, Andrew Natsios, now Secretary of the United States Agency for International Development (USAID), wrote, “The food aid program is visible evidence of the failure of *juche*, the governing state ideology; it has undermined state propaganda about the outside capitalist world, and it has accelerated the privatization of the economy. Thus, the food aid program is undermining state ideology rather than propping the system up.”⁹⁸ From 1995 to 2003, the U.S. provided almost 2 million tons of food aid to North Korea,⁹⁹ although under the Bush administration, food aid has merely trickled into North Korea. This makes sense in light of the Bush administration’s policy aim towards North Korea, as stated by Undersecretary of State John Bolton: “The end of North Korea.”¹⁰⁰

This state of affairs has prompted fears of espionage, and therefore rigidity, in the North Korean government, which has restricted the monitoring activities of donor organizations. The government has limited aid delivery to sensitive military zones and has kept out resident workers from international aid organizations who were fluent in Korean. In turn, many well-known international NGOs, such as Médecins Sans Frontières (Doctors Without Borders), Oxfam, and the Association of Charitable Foundations, have abandoned their humanitarian aid projects in North Korea.¹⁰¹ Nevertheless, many international organizations have responded with understanding to the concerns of the North Korean government, creating a more accommodating atmosphere for both parties.

According to Soon Gee Dae, a North Korean official and food expert I met last summer, the United States promised 100,000 tons of food last year, but as of June 2004 had only sent 40,000 tons. “It is very wrong for the U.S., a big nation, to make this humanitarian assistance a political issue and prolong delivery, especially this amount of food aid,” he said.¹⁰² The United States has rallied other countries to block aid to North Korea until it improves its monitoring of humanitarian aid and abandons its nuclear program.¹⁰³ Despite the implication that North Korea is abusing the humanitarian aid it receives, in February 2003 Director of the WFP James Morris testified to the House Committee on Foreign Relations that “It would be wrong for me to depict

⁹⁷ Hong.

⁹⁸ Natsios, p. 9.

⁹⁹ Friends Committee on National Legislation, “Humanitarian Aid in North Korea,” August 12, 2003. Available on the web at http://www.fcnl.org/issues/item.php?item_id=226&issue_id=34.

¹⁰⁰ Hazel Smith, “Brownback Bill Will Not Solve North Korea’s Problems,” *Jane’s Intelligence Review*, February 2004, p. 43.

¹⁰¹ Hong.

¹⁰² Soon Gee Dae, interview in Pyongyang, June 2004.

¹⁰³ Section 202 of H.R. 4100 (the North Korea Human Rights Act) places rigid constraints on U.S. humanitarian assistance to North Korea, stating that “significant increases above current levels of United States support for humanitarian assistance provided to North Korea should be conditioned upon substantial improvements in transparency, monitoring, and access to vulnerable populations throughout North Korea.”

the regime in Pyongyang as totally uncooperative,” noting that the WFP staff has access to 85 percent of the population and that the WFP “believe[s] that most food is getting through to the women and children who need it.”¹⁰⁴ According to the November 2003 United Nations Consolidated Appeals Process report on the DPRK, the WFP had access to 162 of the 206 counties in North Korea.¹⁰⁵ Kathi Zellweger of Caritas International, the largest private humanitarian network in North Korea, says she is confident that food aid is reaching the most needy.¹⁰⁶

Even if sufficient food aid were reaching North Korea unimpeded by the donors’ political aims, the system would still be flawed. According to Dr. Joo Kim Pilju and Kim Woon-Kun, annual food aid in the amount of 600,000 to 700,000 tons has been donated at the market rate of US\$200 million. They argue that had that money gone towards agricultural inputs such as seed, fertilizer, and chemicals, North Korea could have produced three times the amount of food it received in aid.¹⁰⁷ However, although every dollar’s worth of fertilizer can produce roughly eight dollars’ worth of rice, Randall Ireson warns against replacing food aid with fertilizer aid as a long term strategy: in the long run donated fertilizer would have no more lasting benefit than food aid. Ireson argues for technical assistance in addition to food aid.¹⁰⁸ This is exactly what the North Koreans want. In September 2004, according to Voice of America reporter Kate Pound Dawson, “the DPRK government announced that they feel although there is still a need for humanitarian aid they would welcome in the future more technical assistance and more development-oriented support.”¹⁰⁹

The Current State of North Korea’s Food System

A 2003 joint UN FAO/WFP report showed that North Korea had had its best harvest in nine years, attributable to favorable weather conditions, relatively low crop pests and diseases, and improved availability of electricity, tractors, fuel, spare parts, and, especially, fertilizer. Agriculture contributed to overall growth in North Korea’s gross domestic product (GDP): one-third of the 1.2 percent growth in 2002 and also of the 3.7 percent growth in 2001 was due to

¹⁰⁴ James T. Morris, “Testimony of James T. Morris, Executive Director of World Food Program, Hearing on State of the World Report on Hunger From Africa to North Korea,” before the Committee on Foreign Relations, U.S. House of Representatives, February 25, 2003. Available on the web at <http://foreign.senate.gov/testimony/2003/MorrisTestimony030225.pdf>.

¹⁰⁵ United Nations. Consolidated Appeals Process Report, November 2003, p. 17. Available on the web at <http://www.reliefweb.int>.

¹⁰⁶ Kathi Zellweger, interview in Seoul, December 2004.

¹⁰⁷ Kim Woon-Kun and Joo Kim Pilju, “Strategies for North Korea Food Security Recovery and Agricultural Development Rehabilitation Program,” *Journal of Rural Development*, Summer 1999, p. 59.

¹⁰⁸ Ireson, April 2002.

¹⁰⁹ Kate Pound Dawson, “DPRK Seeks Shift in Aid to Grow Economy, Prevent Hunger,” *Voice of America News*, September 30, 2004.

agriculture, forestry, and fisheries.¹¹⁰ “Farms cited [increased fertilizer application] as the main reason for increased yields,” according to the 2003 UN report.

Despite the recent gains in food production, North Korea could not grow enough food in 2004 to feed all of its 23 million people. Although estimates were optimistic, Kathi Zellweger of Caritas International said the harvest would not be as good as hoped.¹¹¹ According to a new UN report released jointly in November 2004 by the FAO and WFP, approximately 6.4 million North Korean children, women, and elders—one-quarter of the North Korean population—will need external food aid in the amount of 500,000 tons in 2005. The report cited insufficient production, a deficient diet, lower incomes, and rising food prices as the main reasons for the need for food aid. “The ability of low-income families to obtain food from the market is severely restricted due to their deteriorating purchasing power affected by under or unemployment and sharp rises in food prices in the market,” the UN report explained.¹¹²

The shortfall highlights the abiding problems that North Korean agriculture faces. One major problem is the persistent shortage of inputs, such as fertilizer, seeds, fuel, and machinery. For example, only half of all tractors are functioning, and those that are running are extremely dilapidated.¹¹³ And the vast majority (90 percent) of the fertilizer on which North Korean productivity depends is imported from or donated by South Korea, the European Union, the UN’s FAO, and NGOs.¹¹⁴ Pest control is a serious issue, as is poor seed quality. But perhaps North Korean agriculture’s greatest problem is the long-term depletion of soil nutrients, as discussed earlier.

Also compounding the food shortages are economic reforms the North Korean government instituted in July 2002, which increased wages, prices, and currency exchange rates from previously subsidized or artificially low levels, and created a new class of urban poor. These reforms and the others preceding them were in response to the food shortages in the 1990s and were intended to decentralize, liberalize, and open agriculture.¹¹⁵ The price of commodities, like rice and maize, has dramatically risen. Before 2002, rice was 0.9 won/kg and maize was 0.7 won/kg. Now, rice is 46 won/kg and maize is 24 won/kg. The prices of other agricultural inputs such as seed, fertilizer, pesticides, fuel, and electricity have skyrocketed. Cash crops such as

¹¹⁰ United Nations Food and Agriculture Organization and World Food Program, “Special Report: FAO/WFP Crop and Food Supply Assessment Mission to the Democratic People’s Republic of Korea,” October 30, 2003, p. 4.

¹¹¹ Dawson.

¹¹² United Nations Food and Agriculture Organization, “North Korea Has Bigger Harvest,” FAO newsroom. Available on the web at <http://www.fao.org/newsroom/en/news/2004/51607>.

¹¹³ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹¹⁴ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹¹⁵ Lee, p. 176.

tobacco and cotton have also risen, although the government has limited their cultivation until staples are more abundant.¹¹⁶

The market reforms have dramatically affected the prices North Koreans must pay for food from the government-operated Public Distribution System (PDS), which feeds 13.5 million people (60 percent of the population) through subsidized food rations. The PDS sets a fixed price for each member of a nonfarming household. The government buys food from cooperative farms,



Farmers using no-till animal traction Photo: Ademir Calegari

reallocates it to deficient counties, and distributes the food rations according to the individual's type of work. Although the government has sought to give 575 grams of cereal grains per person per day, they have recently been able to give only 319 grams, which covers only half the calorie requirements of a worker's household.¹¹⁷

According to North Korean government officials Soon Gee Dae and Pak Hae Dong, due to food shortages "we are not supplying enough calories.... Though we are now living under these difficulties, we live with optimism and are doing our best to push forward."¹¹⁸ For the proud North Koreans, this must have been a difficult admission.

Based on interviews with recipients of the PDS, the UN found urban populations were most at risk of hunger, with half the households too poor to meet their daily caloric needs. Industrial worker households are especially vulnerable because as wages have increased, many factories have not been able to pay workers their full wages.¹¹⁹ Before the 2002 reforms, prices were proportionate to wages, whereas now, urban workers spend between 70 and 80 percent of their total income on food.¹²⁰

Urban workers have few other sources of income or options for obtaining additional food beyond their PDS rations. Half of these households have kitchen gardens with an average size of

¹¹⁶ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹¹⁷ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹¹⁸ Soon Gee Dae and Pak Hae Dong, interview in Pyongyang, June 2004.

¹¹⁹ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹²⁰ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

10 to 11 *pyong* (approximately 3 to 4 square meters), but the supplemental food typically covers only about 3 percent of the household's total daily energy needs. For those with extra cash, food can be bought at state shops and farmer's markets. State shops sell sugar, oil, salt, and bean paste, but when they are understocked the government gives priority to the most vulnerable groups, so those with the ability to pay shop at farmer's markets. The government limits the amount each household can purchase in state shops, which is important because farmer's market prices for rice and maize are reportedly 3 to 3.5 times higher than PDS prices, and about double the 2002 market levels.¹²¹

Farmers are faring far better than the rest of the North Korean population under the current food distribution system. The increases in food prices benefit farmers. Farmers also receive substantially higher cereal rations: instead of the standard 300 grams per person per day, farmers receive a daily ration of 600 grams per person. Farmer households also earn a share of the sales from their cooperative farm.¹²² And each farm household is entitled to a private garden of 30 *pyong* (11 square meters)—three times the size of the garden permitted an urban household. Approximately 2 million farm households grow food for their own consumption, to sell, or to support extended family.

Farm managers also now have more freedom in terms of how to farm and what to plant, as decision-making on farms has been delegated to lower levels and sub-work teams, according to Zellweger. Farmers spoke openly to her about going to markets and buying whatever was needed, as long as money was available. Zellweger observed a shift towards a more “money-minded approach.” A farm manager told her that managing had become easier, as people are more motivated because they are seeing more of the benefits from their work.¹²³

Farmer's markets, where vegetables from gardens and a variety of consumer goods are sold, were officially recognized in 2003. On her to visit Tongil Market in Pyongyang, Zellweger counted items from over ten countries. She saw fresh vegetables, fruit, meat and fish, and rice, maize and other cereals. Also visible were cigarettes, cosmetics, stockings, clothing, shoes, TVs, refrigerators, tools, spare parts, and traditional Korean medicines.¹²⁴

Food aid also has assumed a role in North Korea's food economy. While food aid can be devastating to local producers who must compete with dumped grain on the domestic market, it is speculated that in North Korea, food aid has actually been fueling the rise of the informal economy and stabilizing prices. According to Meredith Woo-Cumings, aid may serve to stabilize

¹²¹ United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹²² United Nations Food and Agriculture Organization and World Food Program, October 30, 2003.

¹²³ Kathi Zellweger, “46th Visit Trip Report to the DPRK June 1-15, 2004,” Caritas International, Hong Kong.

¹²⁴ Zellweger.

prices in farmer’s markets. If the urban population—more than half of North Koreans—rely on private markets instead of on the state, that is very significant. On one hand, these changes could signify that if “grain is power,” then the state must be relinquishing its power. On the other hand, the informal economy could be, in the words of Woo-Cumings, “serving to maintain the status quo and to shelter the regime from making reforms that would permit a new dynamic development.”¹²⁵



Meal at Pyongyang cooperative farm

Photo: Christine Ahn

While the North Korean government has liberalized agriculture to a certain degree, it has also sought to shut down these initiatives when the food situation has improved. Foreigners have observed that the food crisis of the 1990s and failure of the government to provide food to the North Korean people has spawned private food production and farmer’s markets. However, even as the North Korean government introduced individual incentives and liberalized farm operations, it has also taken measures to shut down grain markets and private plots. Lee Suk concludes that “It seems therefore too early to make any conclusions about the real impacts of the food crisis on the DPRK agricultural institutions.”¹²⁶

The Road to Food Self-Sufficiency

Although the North Korean government will and should make its own decisions about how to achieve food self-sufficiency, it appears that North Korea can choose among three possible paths: moving to a more sustainable model of agriculture; expanding trade via elimination of U.S. sanctions; and/or reunification with South Korea.

Sustainable Agriculture

Most agricultural experts agree that a move to sustainable agriculture is the surest road to greater food security in North Korea. Theodor Friedrich, Senior Agriculturalist at the FAO, says, “Considering the land area, [food self-sufficiency] will be a challenge and only possible using

¹²⁵ Woo-Cumings, p. 31.

¹²⁶ Lee, p. 311.

conservation agriculture techniques, otherwise [North Korea] will lose too much land by erosion and soil degradation.”¹²⁷

According to Friedrich, in the 1970s and 1980s, the DPRK was the leading country in mechanized and so-called intensive agriculture among its Asian neighbors.¹²⁸ This model also defined agriculture in many developed countries, including the Soviet Union and the United States. It was based on the belief that one could boost agricultural yields irrespective of the natural processes of the environment by increasing fertilizer use or by applying pesticides to control pests. This approach worked for a while, but now throughout the world, it has become evident that industrialized agricultural systems have reached a point where yields are no longer increasing. Rather, more and more fertilizer is needed to maintain the current yields and more and more pesticides are needed to control pests.

Friedrich believes this phenomenon is partly to blame for North Korea’s persistent food shortages.¹²⁹ Since North Korea can produce only 8 to 10 percent of the fertilizer it needs, and since the country is economically isolated, it will be difficult for North Korea to count on fertilizing its way to food self-sufficiency. As Friedrich puts it, “traditional recommendations in fertilizer have been on a level which is in no way sustainable,” and furthermore, “because of [North Korean] soil capacities, most of the fertilizers are washed away and [are thus] unproductive.”¹³⁰

Although it will be a difficult adjustment, Friedrich believes that North Korea can achieve higher production with lower inputs using conservation agriculture (CA), which is based on three principles: not tilling the soil; permanent soil cover; and crop rotation. According to Friedrich, countries that have introduced CA in the last twenty years have seen dramatic increases in national food production. In fact, he believes CA is actually the only way to do intensive agriculture with high yields in difficult soil conditions, such as on sloping lands.¹³¹ After the heavy rainfalls that hit North Korea in the 1990s, the soil is now more prone to erosion, especially on cultivated hills that, ten years ago, were mostly covered with bush and forest. Agriculture is encroaching on areas where it should not be practiced. North Korea may be able to continue cultivating marginal lands using chemical inputs for another five or ten years before these soils all wash away. Then it will be very difficult to reestablish soils on these lands.

Because it is clear that North Korea can no longer rely upon subsidized agricultural inputs and will be unable to return to an input-intensive agriculture, the FAO urged the

¹²⁷ Theodor Friedrich, interview in Pyongyang, July 2004.

¹²⁸ Friedrich, July 2004.

¹²⁹ Friedrich, July 2004.

¹³⁰ Friedrich, July 2004.

¹³¹ Friedrich, July 2004.

international community in 2003 to promote sustainable development in North Korea, saying that “unless humanitarian assistance is accompanied by development leading to economic recovery/growth, there will be no end to the emergency.”¹³² That same year, UN FAO-assisted CA projects began in North Korea. According to Friedrich, North Koreans have from the beginning been much more receptive to CA compared with farmers in other countries that have received similar assistance from the FAO.

In 1995, most agriculture in North Korea was mechanized; by 2004 most North Korean agricultural lands were hand cultivated, with the assistance of some animals and a few tractors.



Intercropping legume with maize

Photo: Ademir Calegari

According to Friedrich, CA can make farming in these circumstances much more efficient because it eliminates an immense amount of soil tillage work. “Whether [it uses] hand labor, animal power, or tractor fuel, farmwork will be reduced up to 60 percent, which means that with tractors freed, they can cover double the area,”

he claims.¹³³ If CA is implemented in DPRK, North Korean farmers would be able to produce more food while more efficiently using the scarce available inputs.

Ademir Calegari, an internationally respected Brazilian scientist, is working with the FAO’s CA pilot project with three cooperative farms (each with 600 to 700 families) in three provinces in North Korea, sixty kilometers from Pyongyang. Calegari echoes Friedrich’s belief that CA is the future for North Korean agriculture. Soil fertility, Calegari argues, is the main reason for the decreasing yield production in North Korea.¹³⁴ Instead of more fertilizer and pesticides, the soil needs *less* input.

A new agriculture that looks at the whole food system is desperately needed. In order for North Korean farmers to transition to more sustainable farming, they need to stop plowing the soil, increase biodiversity by using more cover crops and stopping monocrop farming, implement crop rotation, and use terracing only in extreme conditions. To successfully implement CA,

¹³² Reed, p. 12.

¹³³ Friedrich, July 2004.

¹³⁴ Ademir Calegari, interview in Pyongyang, July 2004.

North Korea needs major farm tools and machinery, such as no-till and hand-jab planters, seeds, and cover crops, mostly provided by the FAO for the CA projects. With less than 20 percent of its land usable for agriculture and a strong labor force working collaboratively through cooperatives, North Korea can achieve food self-sufficiency through CA; in fact, Calegari feels that CA “is the only option for a sustainable food system.”¹³⁵ Conventional farming is not sustainable, particularly in North Korea where fuel supply limits farmers’ ability to operate machinery.

In 2004, Calegari hosted three North Korean farmers and agricultural experts in Brazil, and for fifteen days they visited farmers who had successfully implemented CA. Thirty years ago, Brazil began to implement CA. Today, almost 22 million hectares of land—50 percent of Brazil’s agricultural land—are under CA. The North Koreans were impressed with what they saw and were eager to apply CA to their unique conditions. Calegari hopes that after seeing the success of the farms on the three pilot sites in North Korea, the members of neighboring cooperative farms will replicate the CA model on their own land. “They will see that compared to conventional farming, CA will help build organic matter, increase yield, and improve the quality of water, environment, and life.”¹³⁶

The American Friends Service Committee (AFSC) has also been supporting North Korea’s agricultural rehabilitation since 1998, including working to improve soil fertility, upgrading irrigation systems, and reducing post-harvest losses. In collaboration with the Korean Academy of Agricultural Sciences, AFSC has been helping North Koreans rebuild soil fertility through green manures and crop rotation farming systems. Two of these green manures have so far proven to be hardy and compatible with North Korea’s climate.¹³⁷ North Korean agricultural officials cited the importance of such projects to protecting North Korean soils: “We are doing our best to stop and prevent the acidization of the soil by promoting the [production of] organic manure in the countryside and by covering the soil.”¹³⁸

By building an agricultural system that produces more with fewer inputs, North Koreans will get much closer to achieving sustainable agriculture and the food self-sufficiency they so crave. According to Friedrich, there is evidence from other parts of the world that with CA, one can get very close to organic farming.¹³⁹ South Korean professor Kim Wanbae agrees that the CA/organic approach is a good fit for North Korea’s circumstances: “North Korea’s situation is that they have an abundance of labor while lacking capital. As in Cuba, North Korea can resolve

¹³⁵ Calegari, July 2004.

¹³⁶ Calegari, July 2004.

¹³⁷ Interview by phone, July 2004.

¹³⁸ Interview by phone, July 2004.

¹³⁹ Friedrich, July 2004.

its food crisis through the introduction of organic agriculture, while also dealing with the need for environmentally friendly, long term sustainable farming methods.”¹⁴⁰

Trade

Many agricultural experts believe that instead of returning to the same pattern of inefficient, energy-intensive farming, North Korea must trade its resources for the energy and food it needs to feed its predominantly urban population. This approach would include growing high-value specialty crops that can be traded for needed grains, such as rice, and other basic foods. However, one specialist suggests that given adequate investment and changes in farming methods, within a few years North Korea could be nearly self-sufficient in carbohydrate and vegetable protein production. To other experts, North Korean food self-sufficiency means more than having the capacity to grow food in-country. It also means having the economic capacity—capital—to purchase food that cannot be grown domestically. Given North Korea’s food-security challenges—its tenuous political status, marginal farmland, and inclement weather—this argument is persuasive.

Dr. Joo Kim Pilju, a Minnesota-based seed scientist and founder of a small NGO, Agglobe Services International, has pioneered an innovative project that is considered to be among the first large-scale North Korean ventures in market socialism. Dr. Joo is working with twenty-five cooperative farms along the western coast in the South Hwanghae and North Hwanghae provinces, in an effort to turn the farms into model self-sufficient agricultural communities.

Joo is helping to recapitalize these cooperative farms so that they can collectively grow enough food to feed everyone and also grow small amounts of cash crops, the revenue from which would go to improving the institutions of the community, such as medical clinics, schools, and day care facilities. According to Joo, so far cotton, rice, soybeans, pepper, perilla, sesame, millet, buckwheat, and barley have been successfully planted on these farms. In the next stages of the project, Agglobe will help introduce the production of more exportable goods, such as meat, fish, herbal medicines, and organic crops.¹⁴¹

North Korean foreign trade has increased from US\$448 million in 1997 to US\$790 million in 2002. This is principally because trade with South Korea has jumped dramatically: South Korea is now North Korea’s top export destination (China is second). Increased trade between the Koreas was one outcome of the June 15, 2000 joint declaration, which promotes

¹⁴⁰ Kim Wanbae, interview by email, July 2004.

¹⁴¹ Martha Vickery, “Endless Fields of Opportunity: Aid group partners with North Korean farms in model community business project,” *Korean Quarterly*, Summer 2004, pp. 42–43.

reunification on the two nations' own terms, without foreign interference. In addition to promoting cultural and family exchanges (over 10 million families still remain divided), the two government leaders committed to building three joint economic development projects in North Korea using South Korean capital and North Korean labor and resources. One is Sinuiju, a free trade economic zone near the northwest border with China. The second joint project is Mt. Kumgang, which is a tourist resort in the mountains, and the third project is Kaesong, which is



North Korean soldier at the DMZ

Photo: Christine Ahn

an industrial park for South Korean businesses employing North Korean labor, located near the demilitarized zone (DMZ). Most Koreans view these joint economic development projects as part of a practical engagement strategy. The most resistance to these ventures, paradoxically, has come from

the United States, the world's most ardent advocate of trade liberalization. For example, recently, the U.S. government has encouraged South Korea to delay its development of industrial complexes in Kaesong because of the prospect that North Korea could use these "strategic facilities" for military purposes.¹⁴²

Indeed, when I asked several North Koreans about the causes of the famine in North Korea, the most common response was that U.S. policy—specifically U.S. sanctions—played a role. As one North Korean farmer put it, "Not once have we not been under [U.S.] sanctions and blockades. The more [the U.S. employs] sanctions and blockades, the stronger our Korean people will be. We stand on our feet, by our own efforts, we don't pin any hope on Americans."

However, many U.S. experts on North Korea argue that sanctions are merely symbolic. Marcus Noland, for example, argues that sanctions are less of a factor in North Korea's economic hardships than is North Korea's inability to compete.¹⁴³ For example, in a discussion following the first session of the International Symposium on North Korean human rights organized by the South Korean government's National Human Rights Commission, the acting British Special Envoy and a staff member with Human Rights Watch argued that North Korea's

¹⁴² Park Chung-a, "U.S. Blocking Kaesong Development Project," *The Korea Times*, August 31, 2004.

¹⁴³ Marcus Noland, "North Korea Causes Its Own Trade Ills," *Joongang Ilbo*, April 27, 2004. Available on the web at <http://www.iie.com/publications/papers/noland0604.htm>.

failed development was their own fault, not the result of sanctions. I would contend that while North Korea's decision to pursue food self-sufficiency was due in part to its having defaulted on loans in the international financial market in the mid 1970s,¹⁴⁴ one cannot claim that sanctions by the United States have not impaired North Korea's development or ability to trade in the global economy.

Two forms of sanctions currently govern trade between the United States and the DPRK: the Foreign Assets Control Regulations from the 1950 Trading with the Enemy Act, which includes the 1996 Wassenaar Arrangement, and the 1930 Smoot-Hawley Tariff Act. According to Marcus Noland, the first set of sanctions has been modified several times, beginning in 1995 under the agreed framework. Noland writes that “a bilateral agreement on long-range missile testing resulted in the removal of all but a few of the remaining trade restrictions in June 2000.”¹⁴⁵

However, the bilateral missile agreement has a provision banning the sale of potential military items under the 1996 Wassenaar Arrangement. Under this agreement, of which both South Korea and the U.S. are parties, signatory countries to the treaty are restricted from exporting conventional weapons, dual-use goods, and related technologies—that is, “strategic facilities”—to countries supporting terrorism or causing regional disputes. “Strategic facilities” includes, for example, Pentium III or more advanced computers. Since South Korea is a signatory, and North Korea is a “dangerous country,” the Wassenaar Arrangement constitutes an obstacle to cooperative projects between the two countries. One South Korean humanitarian group, the Korean Sharing Movement, has attempted to send thousands of second-hand computers to North Korea to help North Korean youth catch up to the digital age, but the attempt was blocked by the terms of the Wassenaar Arrangement.¹⁴⁶ The terms of the Wassenaar Arrangement have also informed U.S. resistance to the North-South joint development projects discussed earlier. “Symbolic” as U.S. sanctions may be, it would appear that being on the terrorist list of the most powerful and highly armed country in the world does matter.

The second set of sanctions stem from the column 2 tariff rates governed under the Smoot-Hawley Tariff Act. North Korea is among the select list of countries that have not been granted normal trade relations; therefore, products from North Korea are subject to high tariffs under Smoot-Hawley. Because these tariffs are among the highest on labor-intensive products

¹⁴⁴ Lee, p. 11.

¹⁴⁵ Noland.

¹⁴⁶ Jay Solomon and Carla Ann Robbins, “Amid Nuclear Standoff, Food Aid Shrinks for Hungry North Korea,” *Wall Street Journal*, May 15, 2003.

such as garments, “the column 2 tariffs represent a serious potential impediment to trade,”¹⁴⁷ particularly to competitive nations like North Korea.

Representative Tom Lantos, a San Francisco Bay Area representative and the senior ranking Democrat on the House International Relations Committee said, on his return from a three-day visit to North Korea, that he would “work to end economic sanctions against the Communist government, if it ended its nuclear weapons program.”¹⁴⁸ Lantos said, “I have no illusions that we changed history, but it’s clear to me that we may [have] opened a new chapter in U.S.–Korea relations. I indicated that everything was possible—trade, educational exchanges.”¹⁴⁹

Reunification

Another, less frequently discussed strategy for North Korea to achieve food self-sufficiency is reunification of the Korean peninsula. When I asked several North Koreans about reunification and food security, the resounding answer was that, when reunified, Korea would be food secure. “North Korea is a geographically mountainous area while South Korea has much arable plains land. If Korea is reunified, we will not only sustain and support ourselves with food, but we will export food to other countries,” said Yang Sae Shik, Chief Manager of Sunan cooperative farm in the suburbs of Pyongyang.¹⁵⁰ But South Korea itself is hardly food self-sufficient. From 1994 to 1996, grain self-sufficiency in South Korea was 29 percent.¹⁵¹ However, South Korea is food-secure because it has the ability to import what it needs. Even South Korean professor Kim Wanbae said that “there are many ways North and South Korea can complement each other in terms of weather and agricultural land surface.”

Related to the reunification of Korea is the issue of a peace treaty between the U.S. and North Korea. According to the 2003 Consolidated Appeals Process of the UN Agencies operating in North Korea, “The absence of an acceptable resolution of the 1950 to 1953 conflict on the Korean peninsula, and the consequent implications this has for government and donor policy, remains the main problem faced by people in DPRK.” It goes on to state that “Aid agencies have little insight on how the current situation might improve or be resolved without a comprehensive political settlement to the security issues on the peninsula.”¹⁵² Peace—

¹⁴⁷ Noland.

¹⁴⁸ Kathleen E. McLaughlin, “North Korea Seems Ready to Resume Nuke Talks,” *San Francisco Chronicle*, January 12, 2005.

¹⁴⁹ McLaughlin.

¹⁵⁰ Yang Sae Shik, interview, DPRK, July 2004.

¹⁵¹ Kim Myong Chol, “Prolonged Famine in DPRK: Cause and Possible Solution,” UC Berkeley Conference on Famine in North Korea, Committee for Korean Studies, 2000.

specifically a peace treaty between the U.S. and North Korea—then becomes a vital step toward promoting and realizing the political and economic human rights of North Koreans.

Conclusion

The famine that struck North Korea in 1994 has had and will continue to have tremendous consequences—many of them beyond our knowledge. We know for certain that hundreds of thousands died and fled and that persistent food shortages will have lasting impacts on the development of North Korea’s children and the health of all its people. We also know that the famine brought foreign aid agencies and nongovernmental organizations to North Korea, affecting its food and economic systems in myriad ways. What we do not know is the direction North Korea will take next in its agricultural and economic development.

North Korean food production is today a stressed system undergoing rapid change. The 2002 economic reforms that raised food prices, legalized farmer’s markets, and gave greater autonomy to farms to grow crops of their choice are a big part of this change. According to Randall Ireson, devolving decision-making to where the “palm meets the dirt” and increasing opportunities for farms to obtain inputs will help North Korea achieve greater food security.¹⁵³ For now, the urban working poor are less food-secure than before.

North Korea’s market reform is comparable to the Chinese model: it secures the political power of the communist party under a capitalist structure based on neoliberal economic development. According to Kim Wanbae, the desired road is for South Korea, the United States, and the international community to accept the North Korean regime and help the North Korean people implement a concrete plan to revive their agriculture, slowly develop their markets and infrastructure, and open up to the global market economy.¹⁵⁴ Some experts claim North Korea can achieve these ends by making food production less centralized: the 2002 reforms have already started this process.

The overwhelming message governments and aid agencies are directing at North Korea is to open their markets and play monopoly if they want peace and prosperity. “The country needs to transition from a command economy to a market economy,” says Masood Hyder, the outgoing United Nations humanitarian coordinator in North Korea. Hyder seems to believe that North Korea should be more amenable to internal change now because they are in such a rut and are so disliked by the international community. Hyder believes North Korea’s future food security “is still precarious [because] nature can wreak [havoc] at a moment’s notice.” Unless

¹⁵² United Nations, Consolidated Appeals Process Report, November 2003. Available on the web at <http://www.reliefweb.int>.

¹⁵³ Randall Ireson, interview by phone, July 2004.

¹⁵⁴ Randall Ireson, interview by email, July 2004.

North Korea develops its agricultural infrastructure and can trade with other nations, its food security will be subject to the vagaries of politics-driven food aid and the vicissitudes of weather. Yet Hyder pleads for continued food aid, especially as North Korea embarks on market reforms because, as he says, as industries modernize “more people, not fewer, [will] require food aid.”¹⁵⁵

As foreign analysts opine about the possible futures of North Korean agriculture and economy, it’s important for us to keep in mind some basic truths about North Korean agricultural policy, and about the recent famine. Since partition, North Korea’s investment in scientific and technical development has been systematically directed towards socially determined priorities, such as investing heavily in crops needed for national consumption and industrial production. Achieving food self-sufficiency and feeding the entire population were the national priorities—so much so that North Korea traded high-priced rice for cheaper wheat products, with both capitalist and socialist countries. Unlike many Western, developed countries, North Korea was able, for decades, to ensure that everyone had an adequate diet and access to basic goods and public services, such as education and health care.

The high value North Korea places on feeding its people has shaped the nature of its food crisis. North Korea’s crisis differs from those of other countries that suffer from constant food shortages, such as India, which has food reserves and exports food to other countries while its own people are starving. According to Meredith Woo-Cumings, although North Korean malnutrition rates were high at the height of famine, they weren’t any higher than they are in India and Bangladesh in “ordinary” times.¹⁵⁶ On my own recent visit to North Korea, I was surprised to learn from foreign agriculturalists their perspectives on the malnutrition and poverty rates in North Korea. Theodor Friedrich of the UN’s FAO said, “In any African or Latin American country, malnourishment is much more visible and omnipresent than in DPRK.”¹⁵⁷ Ademir Calegari also echoed Friedrich’s sentiment. In traveling throughout the country, Calegari “didn’t see any people in high poverty like in Brazil, like *favelas* (slums). [He] didn’t see any in miserable conditions, even in the rural parts.”¹⁵⁸ Yet do the United States government and the media vilify the human rights records of the leaders of Bangladesh and India as they do those of North Korea?

Foreign economists highlight the inefficiencies brought about by North Korea’s intense focus on food self-sufficiency, such as converting marginal lands into grain fields. North Korea, the argument goes, would be more efficient if it exploited its mineral wealth and bought its food on the global market. (Though at the moment, North Korea could not engage in the global

¹⁵⁵ Masood Hyder, “Preparing North Korea,” *Far East Economic Review*, September 2, 2004.

¹⁵⁶ Woo-Cumings, p. 2w.

¹⁵⁷ Friedrich, July 2004.

¹⁵⁸ Calegari, July 2004.

economy even if it wanted to because of sanctions imposed by the United States.) I would argue that North Korea should trade with capitalist and socialist countries to ensure everyone has the human right to food (as it already has done), but that switching to a reliance on food imports to feed its population goes against the North Korean *juche* ideology—an ideology that has deep roots and cannot (and should not) be blithely brushed aside in favor of neoliberal economic policies.

The argument that North Korea should buy its food with its export earnings works only if one accepts the system of world prices—a system that has created international and domestic patterns of grave inequality among countries that have opened their markets to it.¹⁵⁹ Although liberalized trade can help a nation achieve food security, as in the cases of Japan and South Korea, the reality is that rich countries and transnational corporations control the global trading system and set the rules that govern it. In effect, the inclusion of agriculture in the World Trade Organization (WTO) rules, the liberalization of domestic markets, and the elimination of regulations on foreign investments are combining to destroy local industry and agriculture and fuel hunger in poorer countries. In this context, the spirit of *juche*, which rejects such destructive interference with North Korean sovereignty, looks like a wise path.

As it emerges from the famine years with an agricultural system that has broken down, North Korea is at a critical juncture. It has the opportunity to be an example to the world, as one of the few nations with an agricultural policy aimed at ensuring food for everyone, not just maximizing profit. As they map the way forward for their agricultural and trade policy, North Korean leaders should heed the wisdom of farmers' movements around the world: *food sovereignty* is an alternative to corporate-driven economic globalization and runaway free trade policies that devastate rural communities around the world.

According to Via Campesina, the international farmers' and peasants' movement, "Food sovereignty is the right of peoples to define their own food and agriculture; to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives; to determine the extent to which they want to be self-reliant; [and] to restrict the dumping of products in their markets. Food sovereignty does not negate trade, but rather, it promotes the formulation of trade policies and practices that serve the rights of peoples to safe, healthy and ecologically sustainable production."¹⁶⁰

Food sovereignty goes beyond the concept of food security, which simply says that every child, woman, and man must have enough food to eat each day, but does not take account of

¹⁵⁹ Barkin, p. 37

¹⁶⁰ Peter Rosset, "Food Sovereignty," *Food First Backgrounder*, Winter 2003. Available online at <http://www.foodfirst.org/pubs/backgrdrs/>.

where the food comes from or how it is produced. If achieving food security is a goal, North Korea could heed the suggestions of neoliberals who argue that importing cheap grain from the United States is more efficient for poor countries than producing it themselves. However, as studies show, massive imports of subsidized and globalized food has driven small farmers off the land and forced them to work in urban slums.

According to Brian Halweil, a senior researcher at the World Watch Institute, “Statistics from one wholesale market in Chicago show that the average kilogram of produce traveled more than 2,400 kilometers from farm to plate, nearly 25 percent farther than in 1980.”¹⁶¹ As food is shipped globally, the concentration of economic power in the production and distribution sectors of the system has inevitably squeezed the farmer.

“Today, most of the money is in the work the farmer no longer does—or even controls. Tractor makers, agrochemical firms, seed companies, food processors, and supermarkets take most of what is spent on food, leaving the farmer less than 10 cents of the typical food dollar,”¹⁶² Halweil writes. As farms become mechanized and efficient, Halweil says that oversupply and drops in crop prices erode farmers’ profits, which then force them to search for new technology to increase yields to compensate for shrinking margins. “To generate the same income (assuming stable yields and prices), the farm would need to be roughly four times as large today as in 1950—or the farmer would need to get a night job.”¹⁶³

In contrast to the neoliberal agenda, which prizes market forces over all else and which tends to take economic power away from farmers and even from their governments, the concept of food sovereignty, like the *juche* ideology, says that feeding a nation’s people is an issue of national security and sovereignty. In North Korea’s case, the people were dependent on subsidized oil to grow food, and are now dependent on the goodwill of foreign superpowers not to use food as a weapon. To achieve *genuine* food security, people in rural areas must have access to productive land, and must receive prices for their crops that allow them to make a decent living.

The dominant model that encourages export-focused agriculture, free trade, and importing cheap food also supports a chemical-intensive, large-scale monoculture, with genetically modified (GM) crops. The industrial agriculture model worked for years to feed all of North Korea’s people, but it has ended in diminished yields and ravaged soils. It does not make sense for North Korea to revert to this failed model. Adherents of the food sovereignty model believe these industrial farming practices that destroy the land for future generations should be

¹⁶¹ Brian Halweil, *Eat Here Now: Reclaiming Home Grown Pleasures in a Global Super Market*, New York: WorldWatch Institute and Norton Publishing Company, 2004, p. 7.

¹⁶² Halweil, p. 63

¹⁶³ Halweil, p. 64.

replaced with genuine agrarian reform and a mixture of traditional knowledge and sustainable, agroecologically based farming practices.

People all over the world are facing rural crises and a lack of affordable, nutritious, locally grown food. We must struggle together against global trade policies and in favor of real agrarian reform and more participatory, sustainable, and locally controlled food systems everywhere. We must take back our food and our land. North Korea, like the rest of the world, needs sustainable agriculture, not just open markets, which run counter to their *juche* ideals. The international community should help North Koreans achieve food sovereignty, not isolate, vilify, or strong-arm them.

In the summer of 2004, Korean soldiers on both sides of the DMZ began to dismantle loudspeakers used for decades to broadcast government propaganda against the other side. South Koreans flashed “peace and reunification” before they went off for good. In the past four years, 40,000 North and South Koreans have gotten together in all kinds of group and individual exchanges (farmers’ groups, workers’ groups, women’s groups, and so on), and 650,000 South Koreans have visited Mt. Kumkang in North Korea. Even a *New York Times* headline recently read, “North Korea Is Reaching Out to the World, and the World Is Reaching Back,” above a story that detailed how North Korea now has embassies in 41 countries and diplomatic ties with 155 nations.

Yet, back in the United States, a Cold War mentality has frozen U.S. policy toward Korea. The potential consequences of this paradigm are dire. North Korea, among the nations of the “axis of evil,” may very well be one of the next victims of a preemptive U.S. military strike. Meanwhile, contradictory pictures of North Korea—one of a country led by an evil dictator stockpiling weapons and starving his people, and another of a country ravaged by famine and struggling to recover on its own terms—are constraining how nations and global institutions approach North Korea.

We must remember that North Korea’s agricultural and economic policies were not developed in a vacuum. They were developed in response to a complex set of historical factors, of which the need to preserve sovereignty was the guiding priority. Before foreigners can accuse North Korea of “negligent” or “ill advised” decisions in their development, they need to understand North Korea’s history and culture. In the end, engagement is the best strategy, but the question remains whether North Koreans will be able to maintain their principles of *juche* and food sovereignty, which go against the grain of global market capitalism.

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