

# **Food Shortages in North Korea: Now and the Future**

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## **I. Status of Food Problem**

### **Sources of Food Shortages**

North Korea's food shortages derive from the country's overall economic difficulties, ceased agricultural cooperation with the former socialist bloc, contradictions in the agricultural structure, and continual natural disasters. First and foremost, North Korea's food problem is linked to the country's unabated economic decline. The North Korean economy is in a precarious state owing to the structural contradictions of a planned economy, the downfall of the socialist economic bloc, and Russia's reduced aid. As of 2002, North Korea's nominal gross national income (GNI) was 1/28th of South Korea's and its per-capita GNI only one-thirteenth of South Korea's. Other major sources of North Korean food shortages include suspended technical cooperation and support from its ex-socialist bedfellows and sharp declines in imports of essential farming material and equipment such as fertilizers, pesticides, farming machinery, and

parts due to a breakdown in trade with the former socialist bloc and low foreign currency reserves.

North Korea's practice of collective agricultural management methods, which do not recognize individuals' land management rights, fails to provide enough economic incentives for farmers to work more diligently. State-run and cooperative farms are classic examples of collective farming. The so-called "juche-based farming method," which North Korea introduced around 1970, only served to expand the scope of and aggravate the problems of the existing collective farming policy. North Korea defines the juche-based farming method as "a scientific farming method whereby farming is carried out scientifically and technologically suited for our country's climate and soil and the biological characteristics of our crops. It is an intensive farming method that intensifies agricultural production to a high degree based on modern science and technology." The reality proves, however, that the juche-based farming method, which was coined with the single purpose of increased crop production, has had the adverse effects of exhausting soil fertility and undermining productivity with Pyongyang's encouragement of high-yield crop and land-intensive farming, excessive use of fertilizer, and a single-crop system, coupled with the private cultivation of degraded lands.

Recurring natural disasters of significant scale in the mid-1990s, such as droughts, floods, high tidal waves, hail, and typhoons, exacerbated North Korea's chronic food shortages, which in turn escalated into famine. North Koreans' coping strategies of cultivating small plots of land on hill and mountain slopes and logging heavily resulted in extensive flood damage: they caused widespread deforestation and concomitantly increased soil erosion and landslides. The North Korean authorities, however, exaggerated the scope of the damage in the wake of heavy floods

in July and August of 1995. According to the figures released by Pyongyang, 5.4 million North Koreans lost their homes, 330,000 hectares of farmland were inundated, and 1.9 million tonnes of grain were lost, thereby bringing the damage to a total of US\$15 billion. A United Nations (UN) assessment, however, found that the flood damage affected 500,000 people only. As this case alone shows, the North Korean authorities have a tendency to blame the persisting dearth of food on natural disasters, but the fact is, North Korea's food shortages are chronic and the North Korean economy's structural problems in general are the bigger culprits.

### **Great Famine of 1995 1999**

Various research reports have claimed that 200,000 to 3 million North Koreans died from starvation during the "arduous march." While the North Korean authorities announced that 220,000 of their people had died of hunger, "Good Friends," a South Korean nongovernmental organization (NGO) that carries out humanitarian work to assist the North Korean people, estimates the actual number of famine victims to range from 2.8 to 3.5 million based on interviews with North Korean defectors. Andrew Natsios of the US Agency for International Development (USAID), meanwhile, assesses that 2.5 million died during this period. Dr. Marcus Noland of the Institute for International Economics (IIE), a think tank based in Washington, DC, contends that 600,000 to 1 million North Koreans starved to death.

Kim Jong-il's speech marking the 50th founding anniversary of Kim Il-sung University in December 1996 reflects the gravity of North Korea's food problem at the time. Kim Jong-il disclosed in detail the extent of North Korea's food shortages by noting, "On my way to the Chollima Iron and Steel Complex, [I saw] people who were looking for food forming

long lines in the streets.” He also observed, “I go to other regions and they are all swarming with people in search of food, and train stations and trains are bustling with people looking for food.” Kim Jong-il then stated, “When he was alive, the leader [suryongnim: Kim Il-sung] told me that I must never let myself be dragged into economic work. He told me numerous times that if I become entangled in economic work, I would not be able to conduct either party or military work.” Kim Jong-il therefore evaded the accountability for the country’s economic woes by rationalizing that he must give undivided attention to party and military affairs only and that he could not be responsible for the nuts and bolts of the economy at the same time. Bits and pieces of Kim Jong-il’s speech shed some light on the consequences of the dire food situation as of 1996, to which he alluded: “a state of anarchy is prevailing because of the food problem,” “[the state] cannot supply food to the People’s Army properly,” “cooperative farms and farmers are hoarding not a small amount of food on all kinds of pretexts,” and “some people are smuggling food to make money.” Asserting in the speech that “the US imperialists will invade us right away if they find out that we do not have rice for the military,” Kim Jong-il prodded administrative and economic functionaries to take charge of economic work.

### **Status of Food Supply and Demand**

According to statistics provided by the South Korean government-run Rural Development Administration (RDA), North Korea has produced approximately 3.5 to 4 million tonnes of cereal annually since the 1990s, leaving a deficit of 2 to 2.5 million tonnes each time. North Korea’s cereal output remained its lowest during the “arduous march” but has been on somewhat of a recovery trend since that period. North Korea’s annual

cereal production hovered around 4.15 million tonnes on average in the 1980s, which indicates the country was already ailing from chronic food shortages then. North Korea managed to get by through the reduction of food rations from 700 to 456 g/caput/day and the backing of Soviet and Chinese aid. The RDA reports that North Korea's total cereal output for 2003 stood at 4.25 million tonnes. An increase of 2.9 percent compared to the previous year, this figure is the sum of 1.72 million tonnes of rice, 1.71 million tonnes of maize, 240,000 tonnes of wheat varieties, 110,000 tonnes of pulses and minor cereals, and 470,000 tonnes of other crops such as potatoes and sweet potatoes. Relatively less drought, flood, and typhoon damage appears to have contributed to the 2002–2003 crop yield increase.

On October 30, 2003, the FAO and the WFP released their joint yearly report “Special Report: FAO/WFP Crop and Food Supply Assessment Mission to the Democratic People's Republic of Korea.” An FAO/WFP crop and food supply assessment mission visited North Korea from September 23 to October 4, 2003 to assess the 2003 crop harvest and forecast winter/spring wheat, barley, and potato crops for 2004. The assessment mission toured North and South Pyongan Provinces, North and South Hwanghae Provinces, Pyongyang, Kangwon Province, and South Hamgyong Province, interviewed officials from organizations at different levels, visited families, and analyzed satellite photos to generate crop estimates. The FAO/WFP report states that North Korea's agricultural production has been on a recovery trend since 2001 and that the country's total crop output for the 2003–2004 marketing year (November/October) is estimated at 4.156 million tonnes. (Projected main-crop yields include 1.484 million tonnes of rice, 1.725 million tonnes of maize, and 285,000 tonnes of potato.) The best harvest North Korea

has had over the past nine years, it is a 4.7-percent increase from the 3.969 million tonnes in 2003.

The FAO/WFP report explains that the major factors behind the sustained recovery in agricultural production include the international community's fertilizer aid, improved irrigation facilities in the breadbasket regions, the increased provision of electricity to water-pumping stations and enhanced application of farming machinery, favorable weather conditions, and reduced cases of crop pests and diseases. Despite the upturn in recent years, however, North Korea's domestic production still falls below the minimum food requirements. North Korea's lack of ability to import commercially forces it to remain dependent on external assistance for a substantial amount of its food rations to the people. The FAO and the WFP project the 2003–2004 cereal deficit at 944,000 tonnes, meaning the country will be short of 404,000 tonnes of cereal even if it obtains 100,000 tonnes from commercial imports, 300,000 tonnes of concessional imports from South Korea, and 140,000 tonnes in food aid.

### **North Korean People's Food Access**

President Kim Il-sung once said, "Rice is communism." National Defense Commission (NDC) Chairman Kim Jong-il has pointed out: "One can do without things like cloth or shelter, but one cannot compromise with hunger." As can be seen, North Korea does place importance on food production, but structural contradictions in the North Korean system prevent it from fulfilling even the most basic food needs of the people. Ordinary people access food through the PDS and market purchases. The PDS refers to a system whereby the state buys food from cooperative farms and channels it to non-farming households at fixed

prices. Daily food rations run parallel to the nine categories into which the North Korean population has been classified according to age and occupation. Ordinary laborers who work in factories or enterprises receive ration tickets at the workplace once every 15 days. The elderly, children, and homemakers, in turn, collect ration tickets through their household heads. What rice stores cannot supply (46 North Korean won per kilogram) must be purchased in markets at much higher prices. By way of reference, rice was being sold at 250 won per kilogram at the Tongilgori Market in Pyongyang in early March 2004.

The North Korean authorities' goal for the 2003–2004 marketing year is to be able to distribute 300 g/caput of food daily. However, this amount will provide but approximately half of minimum daily calorie requirements for adults. The food situation leaves rural households better off than their urban counterparts. Farmers were distributed 600 g/caput of food daily, or 219 kilograms per annum, during the 2002–2003 marketing year. Farmers also have the luxury of producing additional food in private plots or on the slopes. Urban dwellers, on the other hand, spend 75 to 85 percent of their income on purchasing food through the PDS, state-run stores, and farmers markets. This stands in stark contrast to the 20 to 35 percent of income farmers on state-run farms expend. Urban populations' food situation stands out as a serious problem because private plots in rural areas are larger than those in the cities and state-run farm workers' monthly wages are around 40 percent higher than what the average city inhabitant earns. Recent steep food-price increases on the market have posed further hardships to people who rely solely on their income to obtain minimum amounts of food required for survival.

The exhaustion of flour stocks have led to shutdowns of noodles plants

in Sinuju, Hamhung, and Wonsan. Three biscuit plants in Pyongyang and Sinuju are on the verge of suspending operations. Concerned that the international community's aid may shrink in the wake of the second round of six-party nuclear talks in Beijing, which failed to yield much success, the North Korean authorities have allegedly released a classified document recently, instructing even State Security Department and Ministry of People's Armed Forces officials to launch their own business to weather the food shortage. The classified document also indicates that Russia suspended gratuitous aid as of February 2004 and that China, too, notified the North Koreans of the possibility of discontinuing free aid starting in March this year. One Chinese national from Dandong, Liaoning Province has testified that poor maize harvest in China in 2003 led to a complete ban on maize exports to North Korea between February and April of 2004. Elderly households in the cities find it particularly challenging to stay self-sufficient. The elderly who reside alone in urban areas without private plots to cultivate remain the most exposed to food security risks. The next most vulnerable group is urban elderly populations who are reliant on one pensioner. Urban elderly households are capable of covering merely 55 to 60 percent of the basic nutritional requirements even if they spend the entirety of their income on food. Those elderly that live on two individuals' pensions or are blessed with their own private gardens are less adversely affected.

### **Food Shortages and Societal Problems**

The Pyongyang government has harnessed the food-rationing system and travel constraints as means of controlling the populace. In a situation where the freedoms of movement, commercial activity, and distribution are limited and the nationwide transportation system for carrying people



and goods remains poor overall, the masses are left with no choice but to suffer from hunger if the state fails to satisfy the least obligation—the delivery of promised food rations to the people. Since the state distribution system caved in completely in the mid-1990s, North Korea has seen a growing number of internally displaced people who have left work or school as the last resort and are wandering around the country scavenging for food. The human body needs more than basic food intake; it functions on a variety of nutrients made possible by a balanced diet, which North Korea's food situation, unfortunately, does not allow at present. Among those surveyed, approximately half of PDS dependents do not satisfy the minimum daily calorie requirement, and the majority of them lack protein. The deterioration of basic social infrastructure such as public health, water, and sanitation redouble the people's difficulties. Vulnerable groups, to include some 200,000 pregnant women and lactating mothers, approximately 3 million children under 10 years old, and around 550,000 elderly, are confronted with greater hazards of hunger.

In a report released in December 2003, one South Korean NGO providing medical support services to North Korean children claims that approximately half of North Korean children under five years old are suffering from malnutrition. In October 2002, the UN Children's Fund (UNICEF), the WFP, and the North Korean authorities conducted a joint nutritional survey on children under seven years old and their mothers in seven provinces and three cities across the country. Their findings point to an improvement in the general nutritional status of North Korean children but indicate that malnutrition continued to be an outstanding problem. The report estimates that underweight (low weight-for-age) touches 21 percent of the child population, wasting

(weight/height) 9 percent, and stunting (height-for-age) 42 percent. Children's nutritional conditions vary widely by region. While the child underweight rate stands at 15 percent in Nampo and Pyongyang, the same phenomenon afflicts over 25 percent of children in the Hamgyong Provinces and Yanggang Province. Child stunting amounts to 25 percent in Nampo, but the rate rises to 48 percent in South Hamgyong Province.

Rampant survival crimes are a corollary of the long-term food shortage in North Korea, and the people are waging a battle on two fronts: starvation and crime. The state's loosened grip on the population for the most part—however involuntary—renders the prevention and tackling of widespread crime out of reach. It is not hard to run into actively engaged pickpockets in market places between 10:00 and 12:30 and 16:00 and 18:00, when they are the most crowded. At night, these pickpockets reportedly flock to train stations to rob. Plundering has become a daily routine for even administrative officials and public security agents in charge of law enforcement, blinded by their own desperate food needs. Public security agents, for instance, frequently find themselves receiving bribes or forcibly taking goods from people while patrolling market places or trains. The discipline in the military is also crumbling under the pressure of chronic food shortages. Soldiers and officers now commit crimes against civilians, such as looting food. Early discharges of malnourished soldiers have been reported as well.

## **II. On the Road to Increased Food Production**

### **Cultivation of Diverse Crops**

North Korea has veered from the standing policy of maize-based

increased food production to the cultivation of diverse crops. It, for one, has reduced the maize-cultivation area, which takes toll on soil fertility, to expand the cultivated area under potato. North Korea's potato-planted area increased steeply from 48,000 jongbo in 1998 to 400,000 jongbo in 2001 (1 jongbo equals 9917.36 square meters). North Korea established the "Potato Production Department" and the "Potato Production Office" under the Ministry of Agriculture and in each provincial rural economic committee, respectively, in 2000. The North Korean government also designates one sub-work team in one cooperative farm in every county to spur potato production. North Korea's barley- and wheat-planted areas have also expanded as a consequence of increased double cropping. According to the RDA, North Korea's double-cropped areas are on a rising trend: they have grown from 38,000 jongbo in 1997 to 100,000 jongbo in 1999 to 2000.

### **Land Realignment and Canal Construction**

North Korea has actively pushed forward with grand-scale land-realignment projects and canal construction to enhance agricultural efficiency. Approximately 30,000 hectares of cultivated land in Kangwon Province, 55,786 hectares in North Pyongan Province, and 100,000 hectares in South Hwanghae Province have been realigned, and similar projects are still under way in South Pyongan Province, Pyongyang, and Nampo. The "Kaechon-Taesongho Waterway construction," which was launched in November 1999 under the goal of building a 160-kilometer-long canal to supply agricultural water to approximately 99,000 hectares of cultivated land in the west-coast area, was completed in October 2002. North Korea has been upgrading the water-supply system in North Pyongan Province into gravity-irrigation facilities since

2003 with a \$10.02-million loan it won from the Organization of Petroleum Exporting Countries (OPEC).

### **Improving Sub-Work Team Management System**

In 1996, North Korea revamped the sub-work team management system it had operated since 1966. Under the overhauled system, the government has downsized sub-work teams from 10–25 people to under 10 each; lowered production goals to more realistic quantities; and authorized sub-work teams to place surplus crops at team members' disposal. North Korea has recently launched a family-unit sub-work team management system on a trial basis. Private kitchen gardens have taken a quantum leap in size, from 30 pyong (1 pyong equals approximately 3.3 square meters) to 400 pyong, in the Hoeryong and Musan regions of North Hamgyong Province. North Korea's monthly for women, *Chosun Nyosong*, has introduced success stories of private cultivation in cooperative farms. The Monggumpo Cooperative Farm in South Hwanghae Province has reported that farming on "fixed plots," or private gardens, led to increased maize yields.

### **III. Assessments and Prospects**

North Korea's yearly crop yields remained under the precipitous lows of 4 million tonnes from the late 1990s until 2002, since which they have maintained a steady upward trend. While the country appears to have escaped the worst case of famine for now, chronic food shortages, nutritional deficiencies, and poor public health conditions stemming from substantial food deficits continue to plague the North Korean masses.

Increased food production is in large part ascribable to aid from South Korea and the rest of the international community, favorable weather conditions, and the North Korean authorities' own efforts. North Korea's dire food situation has widened the disparities among regions and social classes, thus commanding particular attention. The country's deteriorating economic situation has had a more resounding effect on the northern, eastern, and, northeastern provinces than the western and southwestern regions. The precarious food insecurity in the northeast is in part due to the concentration of granaries in the west, spanning from Kaesong to the two Hwanghae Provinces to Nampo, Pyongyang, and the two Pyongan Provinces, but the North Korean authorities' discriminatory policies by region, including favoritism toward Pyongyang, have contributed to the declining living standards in the northeast as well. Kaput or near-idle factories in eastern industrial zones are driving residents in this region into further woes.

The abrupt inflation following the institution of the July 1 economic management reform measures has further weakened city dwellers' food purchasing power. Low productivity in a good number of factories and enterprises has curtailed their capacity to hand out due wages to employees, thereby thrusting wage dependents into a deeper abyss of hunger. Another source of threat to the people's survival is the gap between wage and price increases. As such, the North Korean authorities have attempted to reform the country's agricultural structure to solve the food shortage problem within the confines of their system, but their adventure remains far below expectations. Pyongyang needs to introduce an agricultural reform that is comparable to China's "household contract responsibility system." Pyongyang needs to do more than just grant individual farm households the right to use land; it should authorize them

production and management rights as well as the right to sell crops freely.

North Korea's food shortage is "a structural problem that derives from a combination of factors such as the inefficiencies of the country's farming system, a lack of fertilizers and pesticides, and the contradictions of its economic system." North Korea's grim food prospects will not likely change for the better as long as the country does not give a bold face-lift to its agricultural policy. The conditions that ail the national economy overall will stymie any effort on the part of North Korea to import food commercially. Pyongyang cannot even anticipate generous humanitarian assistance from the international community so long as it does not take full-scale reform and opening-up measures, which would have to start with the resolution of the nuclear issue.

#### **IV. Policy Considerations**

The Seoul government needs to garner precise data on North Korea's food situation as well as on the health status of its people. To this end, Seoul should request the North Korean authorities to make public accurate information of the country's food situation. Pyongyang, for its part, has the obligation to disclose to the international community all its food-related statistics accurately if it expects to receive global assistance on a systematized basis. The ROK Foreign Ministry should take the lead in collecting, organizing, and analyzing data on exactly where North Korea stands in food supply and public health, either in conjunction with related government ministries and offices or with related international organizations.

South Korea needs to grant emergency relief food aid consistently and

positively in a humanitarian spirit considering North Korea's reality today, in which persistent food shortages have plagued the entire population. In particular, vulnerable groups, such as orphans, kindergarteners, elementary school students, pregnant women, and the elderly, beg special attention. The South Korean government has given aid to North Korea in a compatriotic and humanitarian light with the ultimate hope of an improved human rights situation. Thus, Seoul should use inter-Korean exchanges and cooperation to doggedly seek ways to ensure that the substantial benefit of South Korean economic aid reaches North Korean commoners.

The South Korean government's aid to North Korea should include more than just food shipments; it needs to transfer advanced farming techniques such as seed improvements. South-North joint academic projects or educational programs should be encouraged as conduits for imparting such knowledge. South Korea must raise the problems of North Korea's collective farming and recommend the liberalization of agricultural management in its food and/or fertilizer aid negotiations with North Korea. North Korea's food and economic difficulties are structural problems that have snowballed beyond the North Koreans' control. Besides, not even an improved, fully efficient agricultural management system will root out North Korea's food problem altogether, owing to the country's mostly mountainous terrain. North Korea must therefore take the path of reform and opening up and join hands with the global community if it is to overcome the chronic food shortages. Seoul needs to coax North Korea into resolving the nuclear issue as soon as possible so that the latter may lay the groundwork for rebuilding the disintegrated industrial infrastructure and surmounting food shortages with the assistance and cooperation from the international community.

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