

# IS THERE A FAMINE IN NORTH KOREA?

Completed on June 28, 2024. Revised version published on  
June 17, 2025

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## **This report is published in partnership with The Committee for Human Rights in North Korea (HRNK)**

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## Executive Summary

North Korea has long experienced cycles of food insecurity. Most famously, from 1994 to 1998 North Korea suffered a famine that is estimated to have killed up to 3 million people. After the collapse of the country's public distribution system (PDS) for food rations in the 1990s, food insecurity has continued to be a chronic issue for North Koreans. Beginning in 2020, the central government's COVID-19 restrictions severely restricted North Koreans' most important coping mechanisms for food insecurity, implementing lockdowns and further restrictions on market activity. In 2022, the UN publication "The State of Food Security and Nutrition in the World" reported that 40% of North Koreans were malnourished. With poor harvests, higher food prices, border closures from the COVID-19 pandemic, and restrictive government policies, evidence suggests that North Korean food insecurity has been at its worst since the 1990's famine.

The inaccessibility of robust data in North Korea requires the use of diverse research methods to determine the extent of the current food insecurity. Consequently, this report utilizes various approaches examining the time period between the years of 2018-2024. Sources include open-source reporting, mapping and Geographic Information System (GIS) data, and international trade data. The report also uses the famine theories of both Amartya Sen and Thomas Malthus, in addition to the practice-informed writings of Frederick Cuny.

Research into North Korea will always lack the exact data that would allow for complete certainty. However, by examining the social, economic, agricultural, and political aspects of the current North Korean food situation, this report ultimately provides a holistic picture of the acute food insecurity faced by the North Korean people.

## Findings:

***Finding 1: According to the Integrated Food Security Phase Classification (IPC), North Korea (apart from Pyongyang) is predominantly in a Phase 4 Emergency. During lean periods between harvests, the country could possibly be classified as a Phase 5 Catastrophe.***

We have found North Korea to likely be in a Phase 4 Emergency across the country due to severe food shortages, reported widespread adoption of crisis-coping strategies, and mass starvation-related deaths in 2021 and continuing into 2022-2023. According to IPC Phase 4 requirements, this means that at least 20 percent of households are experiencing Phase 4 or worse outcomes, acute malnutrition levels are expected to be between 15-30 percent, and between 1-2 per 10,000 are dying every day. Food insecurity is intensified during lean periods, particularly in border regions and among vulnerable groups, potentially to the Phase 5 Catastrophic/Famine level. More comprehensive data is needed to accurately determine whether the situation reaches the Phase 5 requirements.

***Finding 2: Despite the severity of food insecurity, the North Korean regime restricts food access and controls food distribution where possible.***

Acute food insecurity threatens North Korea's long-term political stability. The failure of the public distribution system (PDS) has led the government to employ strategies including

establishing state-run food shops and suppressing private market activities to maintain control over the population and ensure loyalty to the Kim dynasty. Increasing state intervention in markets is coupled with propaganda, ideological education, and strict control of citizens' behavior to maintain control and support for the Kim family.

***Finding 3: Famine coping behaviors rose between 2018-2024.***

From a list of 224 instances of coping behaviors reported between the years of 2018-2024, reporting peaked in 2023. Yearly, the peak of coping behaviors is seen between May and August, a lean period between harvests. Commonly reported coping mechanisms included migration, reduction of food intake, and pillaging for food.

***Finding 4: Mass starvation-related deaths have been observed across the country, with significant reports of deaths beginning in 2021 due to COVID-19 lockdown restrictions.***

Lockdown restrictions and market crackdowns prevented households from traveling to do business or obtain food, resulting in severe food insecurity and mass starvation-related deaths. Deaths due to ongoing starvation and the spread of COVID-19 infections continued well into 2022-2023 after maximum emergency restrictions were lifted. Acute malnutrition has been observed among key groups including children, farmers, and members of the military. There have also been increasing reports of protesting, group suicides, mass graves, and declining female fertility rates resulting from starvation.

***Finding 5: Extreme food insecurity and starvation conditions are worse among certain groups and geographic areas due to a combination of domestic policies, international sanctions, and the COVID-19 pandemic.***

The areas most affected are likely the border provinces, especially Ryanggang Province, along with port cities. North Korean merchants and traders who lost access to markets due to government policy are among the most vulnerable, along with the elderly, children, and prisoners. Other vulnerable groups include teachers, citizens placed under COVID-19 quarantine restrictions, and the ethnic Chinese minority population.

***Finding 6: The Songbun system caused famine to become localized across specific subgroups despite possible increases in food supply.***

The *Songbun* system in North Korea is a hierarchical class ranking system that determines which citizens are favored more by the regime. This system also determines the distribution of rations, as subgroups who are highly prioritized will receive more rations than lower classes. According to Amartya Sen's theory of entitlement's, even if food supply increases in North Korea a famine could persist because of the *Songbun* system.

***Finding 7: The onset of the 2020 border closure and subsequent domestic market restrictions significantly affected market access and income levels, leading to greater food insecurity during lean periods.***

Yearly, the most severe period of food insecurity observed is between April and August, during the lean period between harvests. The restrictions disrupted market operations and limited income opportunities, reducing purchasing power. Hindering citizens' access to essential food supplies, the policies exacerbated food scarcity and increased the population's vulnerability to food insecurity.

***Finding 8: Between 2018-2021, agricultural production fell while the regime introduced new controls limiting freedom of production, distribution, and consumption choices.***

North Korea experienced a significant food deficit during the 2020-21 harvest cycle, marking the worst since the famine period of the 1990s. This was largely due to a combination of sanctions, pandemic-related isolation, and falling production. Recent agricultural reforms are designed to maintain control over the population and prevent unrest through the manipulation of food distribution, ultimately serving to sustain the Kim dynasty's power and hinder food accessibility.

***Finding 9: The 2023/24 growing season in North Korea showed a marked improvement.***

USDA estimates improvements in yield and hectares in production for the 2023/24 growing season, with above-average rainfall during the critical growing period contributing to favorable conditions for planting and crop establishment. Rice and corn yields were expected to be at or above the long-term average despite the continued challenges of sanctions and the limited ability to import agricultural inputs like fertilizers and improved seeds. Soil moisture conditions from June to August 2023 were conducive to a good finish to the crop cycle, indicating that food production in North Korea could avoid catastrophe under the current conditions, barring any major weather disruptions.

***Finding 10: North Korea's ration system is unreliable and fails to meet North Koreans' caloric requirements.***

Uneven or failed distribution of rations, particularly during the COVID-19 pandemic, has led to concerns about food insecurity and starvation in some regions. Even elites and security forces have faced reductions in rations, highlighting the severity of the situation. Inadequate rations have led to absenteeism and worker dissatisfaction in state-owned enterprises, with some workers collapsing due to lack of sustenance.

***Finding 11: North Korea's food insecurity contributes to strengthened relations with Russia and China, at the expense of relations with South Korea.***

Russian food aid enables the Kim regime to tackle the severe food crisis in North Korea due to imported Russian food supplies and income from military sales to Moscow. A counterbalancing China allows Pyongyang the chance to exploit the trilateral relationship, potentially securing adequate trade levels, facilitating economic recovery, and addressing the food crisis. North Korea's perception of the threat posed by the South Korea-US military alliance and denuclearization talks, coupled with an unfriendly administration in Seoul have eliminated the delivery and distribution of food aid from South Korea to the North.

## Section 1: Background of the 1990s North Korean Famine

As heightened food insecurity once again looms in North Korea, what lessons can be learned from the disaster suffered just thirty years ago? From the famine that killed from 240,000 to 3.5 million people from starvation, disease, and suicide.<sup>1</sup> The famine that stretched for nearly a decade and created the largest exodus of refugees from the country to this date.<sup>2</sup> A famine that haunts the country to this day, is visible in the stunted growth of its people and the reluctance of donor countries to contribute aid to alleviate current food insecurity. The North Korean famine was a great tragedy whose root causes lie in its government's policies creating unequal access to food.

### Economics

After the dissolution of the Soviet Union in 1991, North Korea lost its primary economic supporter. Hitting a peak of \$2 billion in 1990, Soviet imports to North Korea collapsed to less than \$300 million in 1991.<sup>3</sup> By 1994, Russian imports to North Korea were worth less than \$100 million.<sup>4</sup> The lack of Russian imports made North Korean industry and agriculture come to a standstill without fuel, supplies, or materials to keep enterprises or agricultural production running.<sup>5</sup> Lower crop production followed, leading to a breakdown in the system in which the agricultural sector and industrial enterprises traded to keep both sectors running normally.<sup>6</sup> Chinese aid continued but was not sufficient to keep the North Korean economy afloat.<sup>7</sup>

### Government Response

The government responded to low crop production by reducing farmers' rations from 167 kg per year to 107 kg per year.<sup>8</sup> The sudden scarcity created incentives for farmers to steal crops before harvest and spend more time cultivating private plots of land or secret plots in the mountains, leading to lower food production for the country as a whole.<sup>9</sup> Kim Jong-il periodically attacked the farmers' markets that existed throughout the country, despite many residents coming to rely on them for survival after the collapse of North Korea's public distribution system (PDS), which provided rations for a heavily subsidized price.<sup>10</sup> The government also created the 9/27 camps,

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<sup>1</sup> Marcus Noland, Sherman Robinson, and Tao Wang, "Famine in North Korea: Causes and Cures." *Economic Development and Cultural Change* 49, no. 4 (2001): 741–67. <https://doi.org/10.1086/452523>, Spoorenberg, Thomas, and Daniel Schwegendiek. "Demographic Changes in North Korea: 1993–2008." *Population and Development Review* 38, no. 1 (2012): 133–58. <http://www.jstor.org/stable/41857360>.

<sup>2</sup> Andrew Natsios, "The Great North Korean Famine: Famine, Politics, and Foreign Policy". Washington, D.C.: United States Institute of Peace Press, 2001.

<sup>3</sup> Stephan Haggard and Marcus Noland, *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2007. <http://www.jstor.org/stable/10.7312/hagg14000>.

<sup>4</sup> Ibid.

<sup>5</sup> William Moon. "The Origins of the Great North Korean Famine: Its Dynamics and Normative Implications." *North Korean Review* 5, no. 1 (2009): 105–22. <http://www.jstor.org/stable/43910265>

<sup>6</sup> Andrew Natsios, "The Politics of Famine in North Korea." Washington, D.C.: United States Institute of Peace Press, 2001.

<sup>7</sup> Andrew Natsios, "The Great North Korean Famine: Famine, Politics, and Foreign Policy

<sup>8</sup> Andrew Natsios, "The Politics of Famine in North Korea."

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.



named after the date of their creation: September 27, 1997.<sup>11</sup> Officially for the purpose of helping feed those in need, the camps were created to contain the wandering homeless that had been created by the famine.<sup>12</sup> Children institutionalized in the 9/27 camps report being fed little and not allowed to leave.<sup>13</sup>

### **Politics**

Korea's initial appeals for food aid to the World Food Program (WFP) and donor governments in 1990 were met with incredulity.<sup>14</sup> When North Korea first asked for aid following a negotiation with the State Department regarding nuclear weapons development, the US denied their application because the North Koreans had not declared that a crisis in the country was affecting food security.<sup>15</sup> The next year, claiming that 5.4 million people had been displaced by severe flooding in their richest agricultural regions, North Korea yet again applied for aid.<sup>16</sup> Suspicion persisted in the international community, but with the help of certain experts, aid did begin to be supplied to North Korea. Supplying food aid to the country remained a difficult project for various donor governments due to North Korea's political intractability, nascent nuclear weapons development program, and egregious human rights record.

### **International Aid**

The North Korean government refused to permit aid workers unfettered access, which thwarted efforts to understand the populations most in need and supply them with targeted aid to rapidly alleviate food insecurity.<sup>17</sup> Aid workers and observers were not allowed to see the reality of the towns and villages they visited, with street cleanups of emaciated people and dead bodies beginning days before their arrival.<sup>18</sup> This left little to no visual documentation of famine conditions, leaving aid workers who were living and working in the country doubting whether famine was actually happening.<sup>19</sup> Significant amounts of food aid were also diverted by the military, leading to allegations of aid being sold in farmers' markets at market prices beyond the reach of the neediest North Koreans.<sup>20</sup>

North Korean government propaganda also weakened the effectiveness of international aid. Residents were told that international aid would make them lose weight or that foreign medicine caused sickness.<sup>21</sup> This led to a fear of international aid, lessening its impact on food insecurity.

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<sup>11</sup> Jasper Becker, *Rogue Regime: Kim Jong Il and the Looming Threat of North Korea*. Oxford: Oxford University Press, 2005.

<sup>12</sup> Ibid.

<sup>13</sup> Courtland Robinson "FAMINE IN SLOW MOTION: A CASE STUDY OF INTERNAL DISPLACEMENT IN NORTH KOREA." *Refugee Survey Quarterly* 19, no. 2 (2000): 113–27. <http://www.jstor.org/stable/45053236>.

<sup>14</sup> Andrew Natsios. "The Great North Korean Famine: Famine, Politics, and Foreign Policy".

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

<sup>20</sup> Stephan Haggard and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*

<sup>21</sup> Ibid.

## Famine Behaviors

As food insecurity worsened and famine progressed throughout North Korea, people engaged in various coping mechanisms to survive. Previously, North Koreans were confined to their hometown and had difficulty legally leaving their registered town or county.<sup>22</sup> As food insecurity worsened, the population became more mobile than it had ever been before.<sup>23</sup> Previously, if one wanted to travel to a neighboring village, one would need a travel permit.<sup>24</sup> As the famine worsened, the social order regressed, and the population became mobile, constantly in search of food or ways to obtain money with which to buy food. Some wanderers become permanently homeless, usually sleeping at train stations.<sup>25</sup> The migration did not stop at North Korea's borders, with food refugees making their way into China. The region of China nearest North Korea is home to China's Korean ethnic minority, many of whom have family ties across the border. Some refugees sought aid from their families, while others simply went in search of the food they could not find at home.<sup>26</sup> The number that eventually crossed the border is estimated to have been as high as 300,000, although many returned to their homes in North Korea after short periods of time.<sup>27</sup>

The hungry also found alternative forms of food in the search to alleviate their hunger. Already a society that eats foraged plants and greens, North Koreans began to eat any sort of plant that wouldn't poison them.<sup>28</sup> Not a preferred food of North Koreans, scavengers soon depleted the wild frog population.<sup>29</sup> Homeless children would smoke in order to not feel hungry.<sup>30</sup> There were also reports of cannibalism, but was not a widespread phenomenon such as during China's Great Leap Forward.<sup>31</sup>

## Section 2: Famine Theory and Methodology

There has been substantial work done within the niche subject of famine theory, with several different explanations as to why and how famines take place. Specific indicators and coping mechanisms have been recognized to take place within populations that are on the verge of or experiencing food insecurity. These indicators and coping mechanisms have built upon some of the seminal work conducted by prominent academics within famine theory. Two of these scholars are Thomas Malthus and Amartya Sen. A synopsis of their work and findings will be discussed in this section. Additionally, this section will outline the general coping mechanisms

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<sup>22</sup> Andrew Lankov, *The Real North Korea: Life and Politics in the Failed Stalinist Utopia*. New York: Oxford University Press, 2013

<sup>23</sup> Barbara Demick, *Nothing to Envy: Ordinary Lives in North Korea*. Spiegel & Grau, 2015.

<sup>24</sup> Andrew Lankov, "The Real North Korea: Life and Politics in the Failed Stalinist Utopia."

<sup>25</sup> Barbara Demick, *Nothing to Envy: Ordinary Lives in North Korea*.

<sup>26</sup> Jasper Becker, *Rogue Regime: Kim Jong Il and the Looming Threat of North Korea*.

<sup>27</sup> Ibid.

<sup>28</sup> Andrew Natsios, "The Great North Korean Famine: Famine, Politics, and Foreign Policy".

<sup>29</sup> Barbara Demick, *Nothing to Envy: Ordinary Lives in North Korea*.

<sup>30</sup> Ibid.

<sup>31</sup> Jasper Becker, *Rogue Regime: Kim Jong Il and the Looming Threat of North Korea*.

and indicators as laid out by Frederick Cuny, along with a list of these variables reported to be present in North Korea.

Thomas Malthus, in his paper *An Essay on the Principle of Population*, published originally in 1798, provides a fundamental perspective on the occurrences of famines and how they could happen more frequently in the future. Malthus contends that population tends to grow exponentially while food production increases at a slower, linear rate, leading to a potential mismatch between population and resources. He identifies two types of checks that naturally limit population growth: positive checks such as famine, disease, and war, and preventive checks like delayed marriage, celibacy, and contraception. Malthus' essay is primarily cautionary, and the essay urges individuals and societies to adopt measures to manage population growth sustainably to prevent societal hardship and misery.

While *An Essay on the Principle of Population* laid the groundwork for famine theory, the “Malthusian perspective” has been contended considerably. The primary contention to the Malthusian perspective is that it fails to take into account factors such as the rapid growth of technology alongside population growth, which can mitigate population growth outpacing food production. Despite its simplicity, the Malthusian perspective is still an important one to consider when assessing the nature of a famine. Because most of North Korea is mountainous and cannot grow food, combined with limited industrial production, the Malthusian Perspective may work effectively in analyzing a possible famine within the nation.

Amartya Sen, a Nobel Prize-winning Economist, has produced the most comprehensive literature on famine theory which continues to be of use today. Sen does not negate Malthus but rather concludes that his perspective falls short in explaining a complex humanitarian emergency such as a famine. Sen labels the Malthusian Perspective as “Food Availability Decline” (FAD), where he presents an important nuance: starvation is a characteristic of individuals not *having* enough to eat, rather than there not *being* enough to eat.”<sup>32</sup>

Sen provides his theory of entitlements in his prominent piece, *Poverty and Famines: An Essay on Entitlement and Deprivation*. He asserts that there are “entitlement relations,” which are sets of ownership that are interconnected through certain rules of legitimacy. In simpler terms, he states, “A person will be exposed to starvation if, for the ownership that he actually has, the exchange entitlement set does not contain any feasible bundle including enough food.”

Entitlement refers to the set of resources one has access to which can be exchanged for the goods and services they need. Deprivation occurs when one's entitlements fall short of what they require for a decent standard of living. There are four different types of entitlements (and entitlement failure) according to Sen. If any of these entitlements have failed during a food security crisis, then that may be an important indicator of imminent deprivation within a population. The descriptions of Sen's four entitlements are provided below.

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<sup>32</sup> Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation*.

Amartya Sen - Four Entitlements	
Entitlement:	Description:
Trade-based entitlement	An individual has the right to own something they acquire by trading something they already own with someone who willingly agrees to the exchange. This applies to both one-on-one trade or trade involving multiple parties
Production-based entitlement:	An individual has the right to own something they obtain by organizing production using resources they own, or have rented from others under agreed-upon conditions of trade., If an individual uses their resources to produce something, they have the right to own it.
Own-labor entitlement:	An individual has the right to own the product of their own labor. This includes both the rights related to trading what an individual produces and the rights related to owning what they have produced using their own effort.
Inheritance and transfer entitlement:	An individual has the right to own something that someone else willingly gave them, provided that person legitimately owns it. This entitlement can take effect either immediately or after the person's death if specified by them.

**Table 1**

The works of both Malthus and Sen provide an excellent theoretical framework for an analysis of North Korea, as the findings are able to reflect and fit into FAD and entitlement frameworks. However, to robustly assess the significance of events within North Korea, famine theory must be combined with practical analysis measures.

Frederick Cuny, in his book *Famine, Conflict, and Response*, provides an in-depth analysis of a variety of factors that point toward the presence of acute food insecurity or famine. Within this book, Cuny lays out common coping mechanisms, indicators of vulnerability, indicators of imminent crisis, and indicators of famine (also referred to as “trailing indicators,” as they are the effects of an ongoing famine). These coping mechanisms and indicators are detailed below.

Cuny Coping Mechanisms	
Measures	Specific Action
Adjusting Agriculture and Animal Husbandry	<ul style="list-style-type: none"> <li>- Planting of famine reserve crops</li> <li>- Resowing</li> <li>- Searching for other agricultural lands</li> <li>- Searching for other pastures</li> </ul>
Building Food Stocks	<ul style="list-style-type: none"> <li>- Hoarding of food</li> <li>- Selling property for food</li> <li>- Money lending for food</li> </ul>
Adjustments of Dietary Habits	<p><b><i>Reduction of food intake:</i></b></p> <ul style="list-style-type: none"> <li>- Restricting consumption to save food for other people, such as children</li> <li>- Reducing the number of meals per day</li> <li>- Adding extra water to meals</li> </ul> <p><b><i>Consumption of unconventional foods:</i></b></p> <ul style="list-style-type: none"> <li>- Wild plants, fruits, animals</li> <li>- Cattle fodder</li> <li>- Mixing food with inedible substances</li> <li>- Seed for sowing</li> <li>- Slaughter of domestic animals</li> <li>- Anthropophagy (cannibalism)</li> <li>- Eating carrion (carcass)</li> </ul>
Roaming for Food	<ul style="list-style-type: none"> <li>- Begging for food</li> <li>- Collecting wild food</li> <li>- Procuring food from less affected areas</li> <li>- Pillaging for food</li> </ul>
Migrating	<ul style="list-style-type: none"> <li>- Temporary distribution of children to better-off households</li> <li>- Temporary or permanent migration to towns or less affected areas</li> </ul>
Spiritual	<ul style="list-style-type: none"> <li>- Prayer</li> <li>- Magic, rainmaking, witchcraft</li> </ul>

Table 2

Cuny further provides indicators of vulnerability, imminent crisis, and famine (trailing indicators). This list is showcased below:

<b>Cuny Indicators</b>	
Indicators of Vulnerability	<ul style="list-style-type: none"> <li>- Subsistence cultivation</li> <li>- Recurring rainfall shortages</li> <li>- Heavy debt burden among farmers</li> <li>- Low food reserves</li> <li>- Political instability</li> <li>- Farmers required to work part-time off their lands</li> <li>- Increasing desertification, soil erosion, or deforestation</li> <li>- Increasing salinity of soils</li> </ul>
Indicators of Imminent Crisis	<ul style="list-style-type: none"> <li>- Prolonged drought</li> <li>- Onset of natural disasters (floods, insect infestation, etc)</li> <li>- Crop failure</li> <li>- Increased price of staples</li> <li>- Rice in price ratio of staple grain to prevailing wages</li> <li>- Increase in lending rates in the informal lending sector</li> <li>- Increase in sales of livestock and decrease in average sale price</li> <li>- Increased distress sales</li> <li>- Increase in death among livestock</li> <li>- Unusual sales of possessions such as jewelry, ornaments, etc.</li> <li>- Seed shortage or increased cost of seeds</li> <li>- Widespread sales of land at abnormally low prices</li> <li>- Increased hoarding of grains by dealers</li> <li>- Consumption of animals by pastoralists</li> <li>- Consumption of famine foods</li> </ul>
Indicators of Famine (trailing indicators)	<ul style="list-style-type: none"> <li>- increased rates of death</li> <li>- Migration</li> <li>- Some family members going to urban areas to work</li> <li>- Increased rates of low or abnormal growth in children</li> <li>- Increased rates of famine-related diseases</li> <li>- Edema in young children</li> <li>- Increased rates of vitamin deficiencies</li> <li>- Increased rates of nutritional disorders</li> <li>- Sale of traction animals such as oxen</li> <li>- Consumption of seeds</li> </ul>

**Table 3**

This comprehensive list of indicators is extremely useful in the vast majority of famine cases. North Korea, due to its isolation and unique political system, requires more nuance and specificity. In general, Malthus, Sen, and Cuny form their famine theory and practical responses based upon some semblance of a free market and access to observations on the ground. Since none of this is allowed in North Korea, this report has developed a unique set of coping mechanisms and indicators, based on the above information, for the purposes of North Korea.

<b>North Korea Coping Mechanisms</b>	
Adjustment of dietary habits	<ul style="list-style-type: none"> <li>- Alternative/Wild Famine Foods (roaming for food)</li> <li>- Limiting food intake</li> </ul>
Migration	<ul style="list-style-type: none"> <li>- Temporary or permanent migration to towns or less affected areas</li> </ul>
Roaming for food	<ul style="list-style-type: none"> <li>- Wandering homeless population</li> <li>- Begging for food</li> <li>- Pillaging for food</li> </ul>
Adjusting Agriculture and Animal Husbandry	<ul style="list-style-type: none"> <li>- Searching for other agricultural lands</li> <li>- Searching for other pastures</li> </ul>
Building Food Stocks	<ul style="list-style-type: none"> <li>- Hoarding (individuals)</li> </ul>
Other	<ul style="list-style-type: none"> <li>- Spiritual measures</li> </ul>

**Table 4**

North Korea Indicators	
Indicators of Vulnerability	<ul style="list-style-type: none"> <li>- Rise in Poverty</li> <li>- Lack of Rations/Low Food Reserves</li> <li>- Expressed grievances/Protesting</li> <li>- Government seizure of land</li> </ul>
Indicators of Imminent Crisis	<ul style="list-style-type: none"> <li>- Onset of natural disaster</li> <li>- Selling family antiques/possessions</li> <li>- Hoarding of food (market-based)</li> </ul>
Indicators of Famine (trailing indicators)	<ul style="list-style-type: none"> <li>- Prevalence of corpses on streets and public places</li> <li>- Acute Malnutrition</li> <li>- Death from Starvation or famine-related diseases</li> <li>- Declining Female Fertility Rates</li> <li>- Rise in mass suicides</li> <li>- Mass graves</li> </ul>

**Table 5**

This report will utilize the theoretical frameworks of Malthus and Sen by combining the adjusted practical factors of Cuny to provide a comprehensive outlook on food security within North Korea, particularly from around 2018 until the present. The thematically adjusted coping mechanisms and indicators are extremely specific to North Korea, as publicly available information is sparse and the analysis has been conducted through a variety of different methods. By synthesizing these perspectives, this report will aim to offer a thorough and holistic analysis of the current situation within North Korea.

### Methodology

The analysis in this report will utilize the perspectives of Sen, Malthus, and Cuny to provide an in-depth understanding of the current situation within North Korea. It is important to emphasize that this analysis is purely from information and data gathered from publicly available sources. Three sources were most important during data collection. The first, *Rimjin-gang*, is published out of Japan by ASIAPRESS. *Rimjin-gang* currently reports having eight sources inside of North Korea. The second, *Daily NK* is published by the South Korean media group, Unification Media Group, which is the 2018 recipient of the National Endowment for Democracy's 2018 Democracy Award. *Daily NK* has cultivated sources throughout North Korea, but does not reveal their locations, names, or number due to safety concerns. The third, *Radio Free Asia*, which also appears to have sources inside North Korea, was also vital to the report. The qualitative sources and available data paint an effective picture of conditions on the ground.



The sections of this report use the frameworks provided by Sen, Malthus, and Cuny to analyze open-source material. The frameworks extend to not only the adjusted North Korea indicators and coping mechanisms but also the economic analysis and political sections. The economic analysis section utilized a mixed-method approach, which involved analyzing a large variety of source materials. Famines, as Sen points out, are often driven by economic factors and changes.

## Section 3: Coping Mechanisms and Indicators Analysis

### Section 3.1: Coping Mechanisms

#### Wild Foods

An article in 2019 describes a mother and daughter in North Hamgyong province retreating to the mountains to survive by eating wild foods.<sup>33</sup> 2020 saw Pyongyang residents going to the mountains to forage for greens to eat with their rice.<sup>34</sup> In 2021, border guards shot a man foraging near the Sino-North Korean border, while other North Koreans were reported to have suffered food poisoning from eating wild greens.<sup>35</sup> A report in 2022 described farmers without food stores relying on foraging for survival, a coping mechanism blocked by COVID-19 lockdowns.<sup>36</sup>

Foraging continued in 2023, including residents of Hyesan, Ryanggang Province stripping bark off pine trees to eat. In Chagang Province, students were reported to go foraging during school hours.<sup>37</sup> A *Rimjin-gang* contact in a northern province asserted that one-third of local households had no food, and were turning to foraging.<sup>38</sup>

#### Alternative Foods

In a case from 2019, a farmer was sentenced to six months of forced labor for stealing unripe potatoes and barley. North Korean farmers are only allowed to keep the food they grow after giving their assigned portion to the government. Farmers resorting to theft indicates an undue burden of production being placed on farmers and worsening hunger in rural areas. 2020 also marked an increased consumption of products made of soybeans, including soy milk.<sup>39</sup> These products replaced milk and other forms of protein that had become more popular as the wealth

<sup>33</sup> Yoo Jin Kim, "North Korean Mother and Daughter in Abject Poverty Go Missing." *Daily NK English*, 17 Jan. 2020, [www.dailynk.com/english/north-korean-mother-and-daughter-in-abject-poverty-go-missing/](https://www.dailynk.com/english/north-korean-mother-and-daughter-in-abject-poverty-go-missing/).

<sup>34</sup> Seulkee Jang, "N. Koreans in Pyongyang Face Three Months without Rations." *Daily NK English*, 15 June 2020, [www.dailynk.com/english/north-koreans-pyongyang-face-three-months-without-rations/](https://www.dailynk.com/english/north-koreans-pyongyang-face-three-months-without-rations/).

<sup>35</sup> Mun Dong Hui, "Restrictions on Movement in North Korea Are Causing 'Severe Side Effects.'" *Daily NK English*, January 20, 2021. <https://www.dailynk.com/english/restrictions-movement-north-korea-causing-severe-side-effects/>.

<sup>36</sup> Kim Chae Hwan, "Around 20 Residents of South Hwanghae Province Die Due to Starvation." *Daily NK English*, June 3, 2022. <https://www.dailynk.com/english/around-20-residents-south-hwanghae-province-die-due-starvation/#:~:text=Around%20%20South%20Hwanghae%20Province.those%20unable%20to%20find%20food>.

<sup>37</sup> Chae Eun Lee, "The Annual 'Barley Hump' Set to Hit Some Parts of North Korea Particularly Hard." *Daily NK English*, May 30, 2023. <https://www.dailynk.com/english/the-annual-barley-hump-set-hit-some-parts-north-korea-particularly-hard/>.

<sup>38</sup> "Interview About Conditions Inside North Korea Pt.1 -Is it true that people have died of starvation?" *Rimjin Gang*, *Asia Press*, July 26, 2023. <https://www.asiapress.org/rimjin-gang/2023/07/movie/kiga1/>.

<sup>39</sup> Kang Mi Jin, "Soybean Milk - a New Food Fad in North Korea." *Daily NK English*, June 22, 2020. <https://www.dailynk.com/english/soybean-milk-new-food-fad-north-korea/>.

gap grew in North Korea.<sup>40</sup> In 2022, the worsening food situation was demonstrated as North Korean residents collected potato peels to eat, which are typically animal feed.<sup>41</sup> By 2023, there was a report of families buying pine tree bark on credit, from which one then boils with ash until edible. This behavior was also seen in the 1990's famine.<sup>42</sup>

Beginning in 2020, there were yearly articles published detailing residents' inability to make kimchi at normal capacity. Kimchi, a spicy-pickled cabbage dish that is traditionally eaten with every meal throughout the Korean peninsula, is a staple food for North Koreans. The kimchi-making season is in late autumn when cabbages are in season.<sup>43</sup> Reports in 2020 indicate that families were not going to be making kimchi due to a poor cabbage harvest, high prices, loss of trade with China, and the inability to access markets.<sup>44</sup> In 2021 and 2022, articles alleged that economic difficulties and a poor cabbage harvest had led very few locals in Ryanggang to make kimchi for the year. In 2023, the high cost of chili powder, a vital ingredient in kimchi, had led residents of Hyesan to start making kimchi with soymilk.<sup>45</sup>

Most recently, despite decreased crackdowns, street vendors in Hyesan were reported to not be able to afford corn and living on a thin gruel instead during early 2024.<sup>46</sup>

## Reduction of Food Intake

There are consistent mentions of people limiting food intake throughout the time period surveyed. The first was in 2018, in which a reporter visited a village in Ryanggang Province during the lean period and discovered families living off of only "2 or 3 small potatoes the size of bird eggs" each day.<sup>47</sup> In 2019, there are multiple reports describing the families of officers in the 12<sup>th</sup> Corps, which are stationed near the Sino-North Korean border, eating only one meal a day.<sup>48</sup>

<sup>40</sup> Ibid.

<sup>41</sup> Chae Eun Lee, "Yanggang Province Residents Roam Cities to Collect Potato Peels." *Daily NK English*, November 16, 2022. <https://www.dailynk.com/english/yanggang-province-residents-roam-cities-to-collect-potato-peels/>

<sup>42</sup> Andrew Natsios. "The Great North Korean Famine: Famine, Politics, and Foreign Policy".

<sup>43</sup> "UNESCO - Kimjang, Making and Sharing Kimchi in the Republic of Korea" *UNESCO*, August 2023, <https://ich.unesco.org/en/RL/kimjang-making-and-sharing-kimchi-in-the-republic-of-korea-00881>

<sup>44</sup> "Jieun Kim, "Vegetable Shortages in North Korea Cancel Traditional Kimchi-Making Season." *Radio Free Asia*, November 2 2020.

<https://www.rfa.org/english/news/korea/gimjang-11022020203312.html#:~:text=Vegetable%20Shortages%20in%20North%20Korea%20Cancel%20Traditional%20Kimchi%20Making%20Season,-2020.11.02&text=North%20Koreans%20are%20scrambling%20for,in%20the%20country%20told%20RFA.>

<sup>45</sup> Chae Eun Lee, "Hyesan residents turn to soy milk to make kimchi this year" *Daily NK English*, October 25, 2023.

<https://www.dailynk.com/english/hyesan-residents-turn-soy-milk-make-kimchi-this-year/#:~:text=fall%20even%20further,-%E2%80%9CPeople%20facing%20economic%20hardship%20find%20it%20burdensome%20to%20buy%20chili,making%20winter%20kimchi%20with%20soymilk>

<sup>46</sup> Chae Eun Lee, "Hyesan Street Vendors Struggle to Make Ends Meet despite Easing Crackdowns." *Daily NK English*, March 29, 2024. <https://www.dailynk.com/english/hyesan-street-vendors-struggle-make-ends-meet-despite-easing-crackdowns/>

<sup>47</sup> "Hunger hits the countryside ... the rise of 'hungry households' confounds authorities." Rimjin Gang, *Asia Press*, August 7, 2018. <https://www.asiapress.org/rimjin-gang/2018/08/society-economy/hungry-households/>

<sup>48</sup> Mun Dong Hui, "12th Corps on Sino-North Korean Border Still Facing Appalling Conditions" *Daily NK English*, April 16, 2019. <https://www.dailynk.com/english/12th-corps-on-sino-north-korean-border-still-facing-appalling-conditions/>; Ha Yuna, "12th Military Corps in Ryanggang Province Earns 'Army of Beggars' Label among Locals." *Daily NK English*, January 4, 2018 <https://www.dailynk.com/english/12th-military-corps-in-ryanggang-province-earns-army-of-beggars-label-among-locals/#:~:text=%E2%80%9CThe%20soldiers%20are%20like%20beggars,because%20of%20their%20economic%20issues.%E2%80%9D>

In 2020, the situation worsened, with a wide variety of people described reducing their food intake. Households in Pyongyang, usually the most food secure of the North Korean population, were reported to be eating an ear of corn as a meal, eating only one meal a day, or suffering through hunger because of limited rations.<sup>49</sup> In northern Ryanggang Province, street food vendors had reduced portions while keeping prices the same, while in North Hamgyong, residents were struggling to feed recently released prisoners while “not having enough to eat for themselves.”<sup>50</sup> Additionally, the Central Committee of the Korean Workers’ Party released directives for citizens to participate in a “food-saving struggle”, including cracking down on brewing moonshine or making ceremonial tables that include grain products.<sup>51</sup>

In 2021, there were fewer articles about citizens choosing to eat less. Reporting focused more on substandard or lack of rations, discussed further in the [rations section](#). However, northern sources described soldiers eating only one meal a day from arrowroot that they had foraged themselves.<sup>52</sup>

In 2022, there were many articles discussing North Koreans eating less due to hardship. A Daily NK source in Ryanggang said that 40-70% of households survived on one meal a day, while 10-20% had no food in their homes at all in March of 2022.<sup>53</sup> In South Pyongan, a survey of farm workers in April discovered that less than 30% of farming households had enough food stored to last until the fall harvest.<sup>54</sup> Multiple articles about North Hamgyong province describe people eating only once or twice a day over the spring and summer, with many farmers eating less than

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<sup>49</sup> Mun Dong Hui, “Pyongyangites given Rice Reserved for the Military amid Food Shortages” *Daily NK English*, August 28, 2020 <https://www.dailynk.com/english/pyongyangites-given-rice-reserved-military-amid-food-shortages/>; Seulkee Jang, “N. Koreans in Pyongyang Face Three Months without Rations” *Daily NK English*, June 15, 2020 <https://www.dailynk.com/english/north-koreans-pyongyang-face-three-months-without-rations/>; Lee Sang-Yong, “Life in Pyongyang through the Perspective of Those Who Live There.” *Daily NK English*, July 24, 2020 <https://www.dailynk.com/english/life-pyongyang-through-perspective-those-who-live-there/>

<sup>50</sup> Jieun Kim, “North Korea Releases 7,000 Prisoners, Orders People to Provide for Them” *Radio Free Asia*, November 20, 2020. <https://www.rfa.org/english/news/korea/prison-11202020193824.html>; Kang Mi Jin, “Yanggang Province Street Food Vendors Charge the Same for Less.” *Daily NK English*, August 18, 2020 <https://www.dailynk.com/english/yanggang-province-street-food-vendors-charge-same-for-less/#:~:text=Yanggang%20Province%20street%20food%20vendors%20charge%20the%20same%20for%20less,-Street%20food%20vendors&text=As%20part%20of%20efforts%20to,told%20Daily%20NK%20on%20Aug.>

<sup>51</sup> Myungchul Lee, “North Koreans Told to Join ‘Food-Saving Struggle’ to Combat Shortages.” *Radio Free Asia*, November 10, 2020 <https://www.rfa.org/english/news/korea/shortage-11102020213507.html#:~:text=Radio%20Free%20Asia-,North%20Koreans%20Told%20to%20Join%20Food,Saving%20Struggle%20to%20Combat%20Shortages&text=North%20Korea%20is%20encouraging%20people.in%20the%20country%20told%20RFA.>

<sup>52</sup> Ha Yuna, “North Korea-China Border Wall Running into Trouble Due to Lack of Supplies.” *Daily NK English*, August 18, 2021 <https://www.dailynk.com/english/north-korea-china-border-wall-running-into-trouble-lack-supplies/>

<sup>53</sup> Ha Yuna, “Growing Number of N. Korean Families Go Hungry Due to Food Shortages.” *Daily NK English*, March 29, 2022 <https://www.dailynk.com/english/growing-number-north-korean-families-go-hungry-due-food-shortages/#:~:text=A%20growing%20number%20of%20North,told%20Daily%20NK%20last%20Friday.>

<sup>54</sup> Seulkee Jang, “Food Shortages among N. Korean Farmers Worsen amid Rising Grain Prices.” *Daily NK English*, April 22, 2022 <https://www.dailynk.com/english/food-shortages-among-north-korean-farmers-worsen-amid-rising-grain-prices/#:~:text=Korean%20farmers%20worsen%20amid%20rising%20grain%20prices,-A%20South%20Pyongan&text=Food%20shortages%20among%20North%20Korean,are%20showing%20up%20for%20work.>

one meal a day.<sup>55</sup> After the fall harvest, there were still reports of people eating just once or twice a day, as well as few households being able to afford to make kimchi.<sup>56</sup>

2023 began with a cold snap, leading some families in Ryanggang to eat less in order to afford firewood, and a North Pyongan source claimed that most families were struggling to eat one meal a day.<sup>57</sup> Throughout the spring and summer of 2023, sources from Ryanggang and North Hamgyong continued to emphasize how many people, both rural and urban, are able to eat only one or two times a day.<sup>58</sup> One source from Musan County in North Hamgyong was quoted as saying that "...now families that can afford to have regular meals are regarded as affluent," demonstrating how widespread food intake reduction had become at that time.<sup>59</sup>

Reports of North Koreans reducing their food intake continue in 2024. Some families in Pyongsong, South Pyongan were only eating food once a day in January due to not being able to afford both food and fuel.<sup>60</sup> During celebrations for Kim Jong Un's birthday, some residents had to save food from the lunar New Year, eating it even once spoiled.<sup>61</sup> During the Great Full Moon Festival eight days later, many were not able to eat normal celebration foods, with a source estimating that 60% of families in Hyesan did not have enough to eat.<sup>62</sup> In March, street vendors were unable to eat regular meals due to a continued decline in business.<sup>63</sup>

## Migration

Migration in North Korea during times of distress takes various forms. The first is internal and primarily consists of people migrating from urban areas to rural areas to look for food. Migration also includes North Koreans crossing into China over the Sino-North Korean border, or more rarely, directly defecting to South Korea by boat or over the DMZ. Migration, according to

<sup>55</sup> "Investigating N. Korea's COVID-19 Situation (1)...Some areas of N. Hamgyung Province suffer a death rate of 3-5%...Nobody believes the government's statistics...Increasing deaths of children and elderly people" Rimjin Gang, *Asia Press*, July 4, 2022.

<https://www.asiapress.org/rimjin-gang/2022/07/recommendations/korona-12/>; "Farmers face very difficult conditions with food shortages causing rampant starvation...Labor shortages mean many farm fields remain unweeded and unplanted...Crop yields are down because of recent droughts" Rimjin Gang, *Asia Press*, June 14, 2022. <https://www.asiapress.org/rimjin-gang/2022/06/society-economy/farmers/>; "Hunger spreads in rural areas in April; farmers run out of food, and people in cities have no cash income... The authorities implement weak measures to resolve these issues." Rimjin Gang, *Asia Press*, April 25, 2022. <https://www.asiapress.org/rimjin-gang/2022/04/society-economy/hunger-3/>

<sup>56</sup> Chae Eun Lee, "Many N. Koreans Give up Preparing Kimchi for the Winter Citing Rising Cost of Red Pepper Powder." *Daily NK English*, October 25, 2022 <https://www.dailynk.com/english/many-north-koreans-give-up-preparing-kimchi-winter-citing-red-pepper-powder/?tztc=1>; "Speaking honestly about N. Korea's poverty...I'm angry whenever I hear about missiles and I want to live like a human being." Rimjin Gang, *Asia Press*, November 29, 2022. <https://www.asiapress.org/rimjin-gang/2022/11/society-economy/interview-8/>

<sup>57</sup> Jiro Ishimaru, "Facing an Extreme Cold Snap, North Koreans Are in the Middle of a Terrible War with the Cold" *RIMJIN-GANG*, January 31, 2023. <https://www.asiapress.org/rimjin-gang/2023/01/society-economy/ettou/>

<sup>58</sup> "Food sales banned in markets, leading to anxiety and concern while deepening the poverty suffered by the poor", Rimjin Gang *Asia Press*, February 2, 2024. <https://www.asiapress.org/rimjin-gang/2024/02/society-economy/escape/>; Lee Chae Un, "Hoeryong Intensifies Crackdowns on Street Vendors," *Daily NK English*, June 23, 2023. <https://www.dailynk.com/english/hoeryong-intensifies-crackdowns-street-vendors/>; Lee Chae Eun, "N. Korean Teenager Killed during Burglary in Musan County." *Daily NK English*, May 10, 2023.

<https://www.dailynk.com/english/north-korean-teenager-killed-during-burglary-musan-county/#:~:text=A%20North%20Korean%20teenager%20was,student%2C%20which%20occurred%20last%20month.>

<sup>59</sup> Chae Eun Lee, "N. Korean Teenager Killed during Burglary in Musan County"

<sup>60</sup> Chae Eun Lee, "North Koreans Face Difficulties amid Spike in Rice Prices." *Daily NK English*, January 31, 2024. <https://www.dailynk.com/english/north-koreans-face-difficulties-amid-spike-rice-prices/>

<sup>61</sup> Mun Dong Hui, "N. Korea's Electricity and Food Shortages Lead to Frequent Cases of Food Poisoning." *Daily NK English*, February 27, 2024. <https://www.dailynk.com/english/north-korea-electricity-food-shortages-lead-frequent-cases-food-poisoning/#:~:text=However%2C%20the%20food%20often%20spoiled,food%20poisoning%2C%20the%20source%20said.>

<sup>62</sup> Chae Eun Lee, "Hyesan Residents Pray for Peace, Prosperity during Great Full Moon Festival." *Daily NK English*, February 28, 2024. <https://www.dailynk.com/english/hyesan-residents-pray-peace-prosperity-during-great-full-moon-festival/>

<sup>63</sup> Chae Eun Lee, "Hyesan Street Vendors Struggle to Make Ends Meet despite Easing Crackdowns."

Cuny, also includes leaving children with other families during hardship.<sup>64</sup> North Korean families sometimes abandon children and the elderly so that they cannot sustain feeding, which is classified by Cuny as a form of migration.<sup>65</sup>

In 2018 and 2019, stories about migration were primarily centered on people defecting, or planning on defecting, due to economic hardship.<sup>66</sup> Unusually, those included people from the interior provinces, from which defection is much more difficult.<sup>67</sup> Additionally, in a manner typical for the impoverished in North Korea, a story was published about a woman and daughter who sold their house and went to live in the mountains where they could live via foraging.<sup>68</sup> Most unusual was a report describing farmers with private plots in South Pyongan leaving their homes to live with families in urban areas in order to avoid supplying food to the military.<sup>69</sup>

Beginning in 2020, there was an increase in border security, which led to lower rates of defection.<sup>70</sup> However, there were increasing reports of families abandoning their elderly and children due to economic stress, leading to a rise in beggar children in markets.<sup>71</sup> Additionally, the government relocated some Pyongyang residents to rural areas, likely due to being unable to feed the population in the city.<sup>72</sup>

<sup>64</sup> Frederick C. Cuny and Richard B. Hill, *Famine, Conflict and Response: A Basic Guide*, Kumarian Press, February 1, 1999.

<sup>65</sup> Natsios, *The Great North Korean Famine*, 2001; Cuny and Hill, *Famine, Conflict and Response*.

<sup>66</sup> Jieun Kim, "Young North Koreans Ask For 'New Year's Gift' of Money to Defect" *Radio Free Asia*, January 10, 2018. <https://www.rfa.org/english/news/korea/defect-01102018143354.html>; Yong Jae Mok, "China Detains 60 North Korean Defectors, Sends Some Back" *Radio Free Asia*, August 7, 2019. <https://www.rfa.org/english/news/korea/defectors-08072019211049.html>; Seulkee Jang, "Rise in North Koreans Defecting for Economic Reasons." *Daily NK English*, August 2, 2019. <https://www.dailynk.com/english/rise-in-north-koreans-defecting-for-economic-reasons/>

<sup>67</sup> Jang, "Rise in North Koreans Defecting for Economic Reasons."

<sup>68</sup> Yoo Jin Kim, "North Korean Mother and Daughter in Abject Poverty Go Missing." *Daily NK English*, 17 Jan. 2020. [www.dailynk.com/english/north-korean-mother-and-daughter-in-abject-poverty-go-missing/](http://www.dailynk.com/english/north-korean-mother-and-daughter-in-abject-poverty-go-missing/)

<sup>69</sup> Kim Yoo Jin, "State Orders Farmers to Supply More Food to the Military." *Daily NK English*, January 11, 2019. <https://www.dailynk.com/english/state-orders-farmers-to-supply-more-food-to-the-military/>

<sup>70</sup> Sewon Kim, "North Korean Elite Troops Deployed in Layers at the Sino-Korean Border" *Radio Free Asia*, August 20, 2020. <https://www.rfa.org/english/news/korea/special-forces-0820202022232.html#:~:text=North%20Korea%20has%20deployed%20Special.from%20the%20area%20told%20RFA.>; Ha Yuna, "N. Korea Sets up 'Strict Security Zones' on Sino-North Korean Border" *Daily NK English*, September 7, 2020 <https://www.dailynk.com/english/north-korea-sets-up-strict-security-zones-sino-north-korean-border/>; Sewon Kim, "North Korea Sends Special Forces to Ryanggang Province Border With China" *Radio Free Asia*, August 3, 2020. <https://www.rfa.org/english/news/korea/special-forces-08032020210314.html#:~:text=North%20Korea%20Sends%20Special%20Forces%20to%20Ryanggang%20Province%20Border%20With%20China.-2020.08.03&text=North%20Korea%20has%20deployed%201%2C500.in%20the%20region%20told%20RFA.>; Sewon Kim, "Six Men Caught Trying to Escape North Korea on Memorial Day for Founder Kim Il Sung" *Radio Free Asia*, July 14, 2020. <https://www.rfa.org/english/news/korea/escape-07142020205204.html>; Jieun Kim, "North Korea Executes Couple For Trying to Escape to South During COVID-19 Emergency." *Radio Free Asia*, April 22, 2020 <https://www.rfa.org/english/news/korea/escape-05222020185630.html>

<sup>71</sup> "Coronavirus Economic Crisis Forces Married Women into Prostitution, Urban Poor into Foraging, and Orphans into Begging" Rimjin Gang, *Asia Press*, July, 7, 2022, <https://www.asiapress.org/rimjin-gang/2020/07/recommendations/economic-crisis/>; Ha Yuna, "Behind the Rise of Homeless People in North Korea." *Daily NK English*, June 11, 2020. <https://www.dailynk.com/english/behind-rise-homeless-people-north-korea/>

<sup>72</sup> Mun Dong Hui, "Pyongyangites given Rice Reserved for the Military amid Food Shortages" *Daily NK English*, August 28, 2020 <https://www.dailynk.com/english/pyongyangites-given-rice-reserved-military-amid-food-shortages/>



In 2021, attempts at border crossings continued despite heightened security, leading to multiple reported arrests and deaths.<sup>73</sup> There were multiple articles describing North Koreans leaving their homes to either beg or scour the countryside for food.<sup>74</sup> Additionally, some workers left their jobs and hometowns to find more lucrative work such as fishing.<sup>75</sup>

Reporting in 2022 includes fewer instances of migration, which might be explained by the complete lack of reported defection attempts. Domestic migration was actively occurring, including urban poor, with street sellers being particularly mentioned, leaving their homes to go to rural areas in search of food.<sup>76</sup> The lack of cross-border trade had affected farms by 2022, with some sending out workers to bring back money for farm operations.<sup>77</sup>

In February 2023, North Hamgyong authorities started a program for urban poor to move to farms as workers, promising both food and housing.<sup>78</sup> Also in February, parents in South Pyongan were allegedly abandoning their children at orphanages under the assumption that they would receive international aid there. Summer and spring of 2023, typically a lean period between the spring and fall harvests, provided multiple instances of migration. A family defected to South Korea via boat.<sup>79</sup> Residents in South Hamgyong, North Hamgyong, and Ryanggang described the urban poor going to farm areas to beg or borrow for food.<sup>80</sup> One source alleged that more than ten percent of households in Hamhung, South Hamgyong Province, had left for farming areas to beg.<sup>81</sup>

As of April 7, the main outlets for North Korean news have not reported on any food insecurity-related migration.

<sup>73</sup> Kim Yoo Jin, "Father and Daughter Arrested While Trying to Defect across Border" *Daily NK English*, March 22, 2021 <https://www.dailynk.com/english/father-daughter-arrested-while-trying-defect-across-border/>; Hyemin Son, "North Korea Orders Arrest of Armed Border Guard Who Escaped to China" *Radio Free Asia*, October 20, 2021 [https://www.rfa.org/english/news/korea/soldier10202021131612.html#:~:text=North%20Korean%20leader%20Kim%20Jong,in%20both%20countries%20told%20RFA](https://www.rfa.org/english/news/korea/soldier10202021131612.html#:~:text=North%20Korean%20leader%20Kim%20Jong,in%20both%20countries%20told%20RFA;); "Several Defectors Shot and Killed at Chinese Border." Rimjin Gang, *Asia Press*, February 10, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/border-crossing/>

<sup>74</sup> "Last Resort" Rimjin Gang, *Asia Press*, July 27, 2021. <https://www.asiapress.org/rimjin-gang/2021/07/society-economy/poor-population/>; Kim Yoo Jin, "North Korea Encourages Cell Phone Users to Install New 'Cooking App.'" *Daily NK English*, June 18, 2021. <https://www.dailynk.com/english/north-korea-encourages-cell-phone-users-install-new-cooking-app/>

<sup>75</sup> RFA's Korean Service, "North Korean Factory Hunts Down Workers Who Fled for Higher-Paying Fisheries Jobs" *Radio Free Asia*, May 17, 2021. [https://www.rfa.org/english/news/korea/factory05172021175947.html#:~:text=A%20machinery%20factory%20in%20a,in%20the%20country%20told%20RFA](https://www.rfa.org/english/news/korea/factory05172021175947.html#:~:text=A%20machinery%20factory%20in%20a,in%20the%20country%20told%20RFA;); Changgyu Ahn, "North Korea Cracks Down on Employees Skipping Work to Earn Money Elsewhere." *Radio Free Asia*, August 16, 2021 <https://www.rfa.org/english/news/korea/workers-08162021155309.html>

<sup>76</sup> Jieun Kim, "More Missing North Koreans amid Colder Weather and Food Shortages — Radio Free Asia" *Radio Free Asia*, December 12, 2022, <https://www.rfa.org/english/news/korea/missing-12222022183657.html>; Lee Chae Eun, "Rising Commodity Prices and Exchange Rates Hit Ordinary Businesspeople Hard." *Daily NK English*, August 10, 2022. <https://www.dailynk.com/english/rising-commodity-prices-exchange-rates-hit-ordinary-business-people-hard/>

<sup>77</sup> Jieun Kim, "Mining, Fishing Become Deadly Side Jobs for Cash-Strapped North Korean Farmers." *Radio Free Asia*, August 4, 2022 <https://www.rfa.org/english/news/korea/collective-farms-08042022183052.html>

<sup>78</sup> "Authorities begin recruiting poverty-stricken urban dwellers to move to farms with promises of food and housing." Rimjin Gang, *Asia Press*, February 16, 2023. <https://www.asiapress.org/rimjin-gang/2023/02/society-economy/hinkon/>

<sup>79</sup> Michael Lee, "Two North Korean Families Defect across the NLL by Boat." *Korea Joong Daily*, May 18 2023. <https://koreajoongangdaily.joins.com/2023/05/18/national/northKorea/Korea-North-Korea-defector/20230518141327515.html>

<sup>80</sup> "Food sales banned in markets, leading to anxiety and concern while deepening the poverty suffered by the poor" Rimjin Gang, "

<sup>81</sup> Mun Dong Hui, "N. Koreans Abandoning Workplaces, Places of Residence Punished with Forced Labor" *Daily NK English*, July 25, 2023. [www.dailynk.com/english/north-koreans-abandoning-workplaces-places-residence-punished-forced-labor/](https://www.dailynk.com/english/north-koreans-abandoning-workplaces-places-residence-punished-forced-labor/)

## Wandering or Begging for Food

Wandering homeless in North Korea are referred to as *kotjebi*.<sup>82</sup> The term was coined during the 1990's famine to refer to homeless children but now refers to wandering homeless of all ages, typically the young and the elderly.<sup>83</sup>

There is no reporting about *kotjebi* in 2018. In 2019, two stories were published about a growing number of wandering homeless begging in markets, especially teenagers, in Hoeryong, North Hamgyong Province, and Hyesan, Ryanggang Province.<sup>84</sup> Another story from rural Ryanggang mentioned that the wandering homeless in markets appeared malnourished.<sup>85</sup>

2020 saw a rise in reports of wandering homeless. Every article describes a rise in wandering homeless going to rural areas to look, including in North Hamgyong, Ryanggang, North Hwanghae, and North Pyongan provinces.<sup>86</sup> A source in Sinuiju, North Pyongan Province, described the situation in *Rimjin-gang*, "There are more adults than children begging at the markets. They're not dressed in rags so they're not homeless. The number of elderly beggars has increased in particular. The authorities do not crack down on the begging and leave them alone, saying 'If we place them under arrest, we won't be able to feed them.'"<sup>87</sup> A resident of Ryanggang Province speaking to *Daily NK* described a rise in homelessness, but not to the levels seen during the 1990's famine.<sup>88</sup> In Musan, North Hamgyong, a family of four froze to death outside of the train station in November 2020.<sup>89</sup>

Rising homelessness continued in 2021, with stories published from North Hamgyong, Ryanggang, and South Pyongan provinces.<sup>90</sup> A source from Ryanggang described seeing

<sup>82</sup> Natsios, Andrew S.: The Great North Korean Famine: Famine, Politics, and Foreign Policy".

<sup>83</sup> Jieun Kim, "Facing Chronic Shortfalls, North Korea Tells Citizens to Start Supplying Their Own Food" *Radio Free Asia*, July 7, 2021. <https://www.rfa.org/english/news/korea/food-07072021183519.html>; "Penniless Protectors." *Rimjin Gang*, *Asia Press*, January 31, 2019. <https://www.asiapress.org/rimjin-gang/2019/01/recommendations/homeless-disappear/>

<sup>84</sup> Homeless and Helpless: Residents Young and Old Beg as Population Fears a 'Second Arduous March.'" *Rimjin Gang*, *Asia Press*, June 13, 2019. <https://www.asiapress.org/rimjin-gang/2019/06/recommendations/arduous-march/>

<sup>85</sup> Ha Yuna, "North Korean Farmers Struggle with Food Insecurity." *Daily NK English*, May 21, 2019. <https://www.dailynk.com/english/even-north-korean-farmers-are-starving/>

<sup>86</sup> Kim Yoo Jin, "N. Hamgyong Province Witnesses Soaring Prices and More Homeless on the Streets" *Daily NK English*, December 1, 2020. <https://www.dailynk.com/english/north-hamgyong-province-witnesses-soaring-prices-more-homeless-streets/>; Jeong Seo-Yong, "N. Hamgyong Province Intensifies Efforts to Prevent Rice from Being Taken out of Rural Towns." *Daily NK English*, December 30, 2020. <https://www.dailynk.com/english/north-hamgyong-province-intensifies-efforts-prevent-rice-taken-out-rural-towns/>; Ha Yuna, "Behind the Rise of Homeless People in North Korea." *Daily NK English*, June 11, 2020. <https://www.dailynk.com/english/behind-rise-homeless-people-north-korea/>

<sup>87</sup> "Coronavirus Economic Crisis Forces Married Women into Prostitution, Urban Poor into Foraging, and Orphans into Begging" *Rimjin Gang*, *Asia Press*, July, 7, 2022. <https://www.asiapress.org/rimjin-gang/2020/07/recommendations/economic-crisis/>

<sup>88</sup> Ha Yuna, "Behind the Rise of Homeless People in North Korea." *Daily NK English*, June 11, 2020. <https://www.dailynk.com/english/behind-rise-homeless-people-north-korea/>

<sup>89</sup> Kim Yoo Jin, "N. Hamgyong Province Witnesses Soaring Prices and More Homeless on the Streets."

<sup>90</sup> "More Elderly and Children Begging in the Streets...Girls at Greater Risk of Sexual Abuse" *Rimjin Gang*, *Asia Press*, May 17, 2021. <https://www.asiapress.org/rimjin-gang/2021/05/society-economy/on-the-rise/>; Seulkee Jang, "A Growing Number of South Pyongan Province Households Are Suffering from Food Shortages" *Daily NK English*, June 17, 2021. <https://www.dailynk.com/english/growing-number-south-pyongan-province-households-suffering-food-shortages/#:~:text=The%20source%20told%20Daily%20NK,are%20reportedly%20having%20proper%20meals.>; Jeong Seo-Yong, "Chongjin Eases COVID-19 Rules in Local Markets, yet Locals Are Still Unhappy" *Daily NK English*, March 11, 2021. <https://www.dailynk.com/english/chongjin-eases-covid-19-rules-local-markets-yet-locals-still-unhappy/>; "Authorities Ordered to House More Homeless, Internal Documents State, as Economic Paralysis of Coronavirus Worsens." *Rimjin Gang*, *Asia Press*, January 13, 2021. <https://www.asiapress.org/rimjin-gang/2021/01/society-economy/coronas-economic/>

“...(elderly homeless) get so weak from lack of food that they fall asleep and die in the market.”<sup>91</sup> The homeless are vulnerable to cold in North Korea’s frigid winters, with one child reported to have suffered frostbite, and another pair of children freezing to death.<sup>92</sup>

2022 continued to see articles about a rise in homelessness and included reports from North Hamgyong, South Hamgyong, and Ryanggang provinces. In North Hamgyong, the homeless were seen in streets and crowded places, people left their homes to wander rural areas in search of food, and homeless children froze to death during a cold snap.<sup>93</sup> In Hyesan, Ryanggang Province, a report describes teenagers taking videos of homeless people being forced to humiliate themselves for bread.<sup>94</sup>

Reports of rising homelessness continued in 2023, including in North Hamgyong and Ryanggang provinces.<sup>95</sup> In Hyesan, Ryanggang Province there was an alleged rise in homelessness due to debt, with some living in “storage facilities and in front of train stations”.<sup>96</sup> Some homeless elderly and children were abandoned by their families, while others were supposedly graduates of schools for orphans.<sup>97</sup>

### Pillaging for Food

In 2018, there were three reports on pillaging for food. Officials raided houses for grain in South Hamgyong to make up for quotas, while soldiers in North Hwanghae were reported to be robbing houses due to hunger after training.<sup>98</sup> Meanwhile, in Chongjin, North Hamgyong Province, thefts occurred during the kimchi-making season for the more expensive ingredients in kimchi like chili pepper.

In 2019, soldiers were the most commonly reported group pillaging for food. In January, the 12<sup>th</sup> Corps stationed in Hyesan, Ryanggang Province had such low rations that they were forced to steal food from others in order to survive.<sup>99</sup> Soldiers stationed in North Pyongan, South Pyongan,

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<sup>91</sup> Ibid.

<sup>92</sup> “Authorities Ordered to House More Homeless, Internal Documents State, as Economic Paralysis of Coronavirus Worsens”, Rimjin Gang; “More Elderly and Children Begging in the Streets...Girls at Greater Risk of Sexual Abuse.”, Rimjin Gang

<sup>93</sup> “Shocking levels of urban poverty forces an increasing number of people to abandon cities to beg in rural areas,” *Asiapress*, October 6, 2022. <https://www.asiapress.org/rimjin-gang/2022/10/society-economy/konkyu-2/>; Jeun Kim, “More Missing North Koreans amid Colder Weather and Food Shortages — Radio Free Asia”

<sup>94</sup> “N. Korea takes issue with high school students taking videos of kissing, dancing, fighting, and harassing the homeless.” Rimjin Gang, *Asia Press*, November 11, 2022 <https://www.asiapress.org/rimjin-gang/2022/11/society-economy/tyukosei/>

<sup>95</sup> Jiro Ishimaru, “Facing an Extreme Cold Snap, North Koreans Are in the Middle of a Terrible War with the Cold” *RIMJIN-GANG*, January 31, 2023. <https://www.asiapress.org/rimjin-gang/2023/01/society-economy/ettou/>; “Increase in Wandering Homeless People throughout North Korea...poverty-Stricken Elderly People and Children Forced out into the Streets, with Some Even dying...The Authorities Order Thorough Measures to Be Taken”, Rimjin Gang; Jeong Seo-Yong, “N. Hamgyong Province Takes Measures to Help Wandering Graduates of Schools for Orphans.” *Daily NK English*, June 15, 2023. <https://www.dailynk.com/english/north-hamgyong-province-takes-measures-help-wandering-graduates-schools-orphans/>

<sup>96</sup> Ibid.

<sup>97</sup> Jeong Seo-Yong, “N. Hamgyong Province Takes Measures to Help Wandering Graduates of Schools for Orphans.”

<sup>98</sup> “Authorities Concerned as Starving Soldiers Brazenly Attack Farms and Homes to Steal Food.” Rimjin Gang, *Asia Press*. April 2, 2024. <https://www.asiapress.org/rimjin-gang/2024/04/society-economy/oldwomen2/>; Daily NK, “Collective Farm Authorities Ransack Homes for Food in Midst of Shortage” *Daily NK English*, January 19, 2018. <https://www.dailynk.com/english/collective-farm-authorities-ransack/>; Mun Dong Hui, “Residents Concerned over Rise in Violent Crime in North Korea.” *Daily NK English*, December 20, 2018. <https://www.dailynk.com/english/residents-concerned-over-rise-in-violent-crime-in-north-korea/>

<sup>99</sup> Mun Dong Hui, “12th Corps on Sino-North Korean Border Still Facing Appalling Conditions”; Ha Yuna, “12th Military Corps in Ryanggang Province Earns ‘Army of Beggars’ Label among Locals.”



and North Hamgyong provinces were also caught stealing food from farmland or houses.<sup>100</sup> In North Pyongan province, the two soldiers caught had crossed the border to steal food from a house in China.<sup>101</sup> Two farmers in Ryanggang Province were sentenced to six months of labor for stealing – one for potato seeds, the other for stealing unripe potatoes and barley.<sup>102</sup> Additionally, a work brigade member in South Pyongan Province died while attempting to steal corn from a moving truck.<sup>103</sup>

2020 saw two instances of pillaging for food, perhaps due to North Koreans' constrained movement during COVID-19 lockdowns. *Radio Free Asia* reported that due to an uptick in thefts – including for foodstuffs – armed guards were posted at many cooperative farms and state-run businesses that store food.<sup>104</sup> Soldiers assigned to hospital construction were also reported to be breaking into homes to steal food and electronics.<sup>105</sup>

In 2021, soldiers were yet again responsible for most cases of looting for food. Stories were published from North Hwanghae, North Hamgyong, and Ryanggang of soldiers stealing crops, mugging citizens, and killing livestock for food.<sup>106</sup> An additional report from North Hamgyong detailed soldiers attacking a farm to steal food.<sup>107</sup> Police also took advantage of quarantined citizens to get food and bribes under the pretense of quarantine violations.<sup>108</sup> Students were stealing enough crops during harvest that guards were posted in Ryanggang.<sup>109</sup> Meanwhile, a man in South Pyongan attempted to steal a cow in exchange for 50 kg of corn.<sup>110</sup> Stealing cows

<sup>100</sup> Daily NK, "Daily NK Snapshots from North Korea"; Mun Dong Hui, "North Korean Border Guards Steal Food from House in China" *Daily NK English*, July 19, 2019.

<https://www.dailynk.com/english/north-korean-border-guards-steal-food-from-house-in-china/>  
Kim Yoo Jin, "Soldiers Steal Food from Plots of Farmland Managed by Civilians." *Daily NK English*, October 1, 2019.  
<https://www.dailynk.com/english/north-korean-soldiers-plunder-civilian-farmland/>

<sup>101</sup> Mun Dong Hui, "North Korean Border Guards Steal Food from House in China"

<sup>102</sup> Kim Yoo Jin, "North Korean Farmers Sent to Labor Camp for Stealing Potato Seeds" June 11, 2019. <https://www.dailynk.com/english/north-korean-farmers-sent-to-labor-camp-for-stealing-potato-seeds/>; Kim Yoo Jin, "Farmer Facing Six Months Forced Labor for Stealing Potatoes." *Daily NK English*. September 18, 2019. <https://www.dailynk.com/english/farmer-facing-six-months-labor-camp-theft/>

<sup>103</sup> Kim Yoo Jin, "Samjiyon Residents Receive Special Rations for Role in Major State Construction Project." *Daily NK English*, February 19, 2019. <https://www.dailynk.com/english/samjiyon-residents-receive-special-rations-for-role-in-major-state-construction-project/>

<sup>104</sup> "Myungchul Lee, "North Korea Arms State-Run Farms and Businesses to Prevent Theft." *Radio Free Asia*, October 2, 2020. <https://www.rfa.org/english/news/korea/theft10022020173631.html#:~:text=North%20Korean%20authorities%20are%20sending,in%20the%20country%20told%20REA.>

<sup>105</sup> Seulkee Jang, "Pyongyang Hospital Construction Workers Stealing to Survive." *Daily NK English*. April 20, 2020. <https://www.dailynk.com/english/pyongyang-hospital-construction-workers-stealing-survive/>

<sup>106</sup> Kim Chae Hwan, "N. Korean Border Patrol's Food Provisions Heavily Impacted by COVID-19 Border Closure," *Daily NK English*, November 25, 2021. [www.dailynk.com/english/north-korean-border-patrol-food-provisions-heavily-impacted-covid-19-border-closure/](http://www.dailynk.com/english/north-korean-border-patrol-food-provisions-heavily-impacted-covid-19-border-closure/); Jeong Yon Park, "North Korean Soldiers Steal from Civilians to Celebrate the End of Korean War." *Radio Free Asia* July 27, 2021. <https://www.rfa.org/english/news/korea/bandit-07272021184100.html>

<sup>107</sup> "Authorities Concerned as Starving Soldiers Brazenly Attack Farms and Homes to Steal Food." Rimjin Gang, *Asia Press*.

<sup>108</sup> Jieun Kim, "North Korean Quarantine Police Shake Down Residents for Bribes and Food." *Radio Free Asia*, March 1, 2021. <https://www.rfa.org/english/news/korea/quarantine-03012021132505.html>

<sup>109</sup> Ibid.

<sup>110</sup> "High school students enter farm fields to steal crops to survive...Government officials check the whereabouts of students who miss class." RIMJIN-GANG, October 31, 2022. <https://www.asiapress.org/rimjin-gang/2022/10/society-economy/nusumi/>

is a severe crime in North Korea due to their use as draft animals.<sup>111</sup> In Pyongyang, construction workers allegedly robbed and murdered to feed themselves.<sup>112</sup>

In 2022, a wide array of citizenry were responsible for pillaging for food. In North Hamgyong, one man was beaten to death for ten kilograms of corn, while there were rumors that private plots in the mountains were stripped by robbers.<sup>113</sup> North Pyongan saw collective farmers stealing rice seedlings from private farms.<sup>114</sup> In Ryanggang, soldiers were arrested for stealing pork, while middle school students were reported to be going to rural areas to steal crops.<sup>115</sup> Kindergarten teachers in Hyesan, Ryanggang Province, were also said to be stealing kindergarteners' soy milk to sell at market.<sup>116</sup>

2023 saw fewer incidents of pillaging for food. North Hamgyong Province saw an increase in robberies for food and money with soldiers often being the criminals.<sup>117</sup> Sources alleged that it made travel between rural and urban areas dangerous without a group of three to five people.<sup>118</sup> Reporting from Ryanggang Province also details a rise in robberies, including for food. One news story was present in all three publications with sources inside of North Korea – *Daily NK*, *Rimjin-gang*, *Radio Free Asia* – of a man in Hyesan, Ryanggang Province was publicly executed for murdering a woman for ten kilograms of beans.<sup>119</sup>

As of April 8, there are no reported instances of pillaging for food in 2024.

## Personal Hoarding

In 2019, personal hoarding occurred after potato prices doubled, leading residents of Hyesan, Ryanggang Province to begin hoarding and panic buying rice. In 2020, personal hoarding due to

<sup>111</sup> Kim Jieun, "North Korea Publicly Executes 9 People for Running Beef Smuggling Ring." *Radio Free Asia*, September 5, 2023. <https://www.rfa.org/english/news/korea/beef-09052023141651.html>

<sup>112</sup> Jeong Yon Park, "Hungry North Korean Construction Workers in Pyongyang Rob and Murder Citizens to Buy Food." *Radio Free Asia*, May 12, 2021. <https://www.rfa.org/english/news/korea/construction-05122021190109.html#:~:text=Residents%20of%20the%20North%20Korean,in%20the%20city%20told%20RFA.>

<sup>113</sup> "N. Korea's recent farming situation (2) Gunshots heard in the farm fields...The authorities place unprecedented troops in the fields to prevent robberies", Rimjin Gang, *Asia Press*, October 12, 2022. <https://www.asiapress.org/rimjin-gang/2022/10/society-economy/mobilize2/>; Lee Chae Eun, "Elderly Man Beaten to Death for 10 Kilograms of Corn in N. Hamgyong Province." *Daily NK English*, December 27, 2022. <https://www.dailynk.com/english/elderly-man-beaten-death-10-kilograms-corn-north-hamgyong-province/>

<sup>114</sup> Jeong Seo-Yong, "Farmers in N. Pyongan Province Arrested for Stealing Rice Seedlings." *Daily NK English*. June 21, 2022. <https://www.dailynk.com/english/farmers-north-pyongan-province-arrested-stealing-rice-seedlings/>

<sup>115</sup> Kim Chae Hwan, "Three Soldiers in Yanggang Province Beaten by Local Patrol While Trying to Steal Pork" *Daily NK English*, August 2, 2022. [https://www.dailynk.com/english/three-soldiers-yanggang-province-beaten-local-patrol-while-trying-steal-pork/#:~:text=Three%20soldiers%20in%20Yanggang%20Province%20were%20recently%20beaten%20by%20a,Korean%20War%20armistice%20was%20signed.](https://www.dailynk.com/english/three-soldiers-yanggang-province-beaten-local-patrol-while-trying-steal-pork/#:~:text=Three%20soldiers%20in%20Yanggang%20Province%20were%20recently%20beaten%20by%20a,Korean%20War%20armistice%20was%20signed.;); "High school students enter farm fields to steal crops to survive...Government officials check the whereabouts of students who miss class." RIMJIN-GANG

<sup>116</sup> Chae Eun Lee, "Hyesan Kindergarten under Investigation for Pilfering Soy Milk Intended for Children." *Daily NK English*, April 15, 2022. <https://www.dailynk.com/english/hyesan-kindergarten-under-investigation-for-pilfering-soy-milk-intended-for-children/#:~:text=%E2%80%9CThe%20Hyesan%20department%20of%20education.8.>

<sup>117</sup> "Police decided to use gun to combat rash of robberies...Soldiers also frequently take part in robberies, using 'knives to threaten people and take away their bicycles, phones, and even their clothes.', Rimjin Gang, *Asia Press*, March 11, 2025. <https://www.asiapress.org/rimjin-gang/2025/03/society-economy/eradication/>

<sup>118</sup> Ibid.

<sup>119</sup> Kim Jieun, "Publicly Executed for Killing a Woman While Trying to Steal Beans" *Radio Free Asia*, December 23, 2023. <https://www.rfa.org/english/news/korea/public-execution-12222023162046.html>; Shin Yong-Geon, "N. Korean Woman Murdered during Robbery of Harvested Crops" *Daily NK English*, November 17, 2023. <https://www.dailynk.com/english/n-korean-woman-murdered-during-robbery-of-harvested-crops/>

COVID-19 regulations regarding self-sufficiency and import restrictions was alleged in North Hamgyong and Pyongyang.<sup>120</sup> 2021 saw farmers being sentenced to labor camps for having been found hiding corn destined for redistribution to the state.<sup>121</sup>

## Superstition

North Korea, as a Communist country, persecutes those that engage in “superstitious acts” which include religion and other activities such as fortune telling.<sup>122</sup> In 2018, there were three reports of fortune tellers being arrested or executed in Ryanggang and North Hamgyong Provinces.<sup>123</sup> In 2019, there were articles detailing the executions of three female fortune tellers in South Pyongan and Hamgyong Provinces.<sup>124</sup> In 2020, there was an article out of Ryanggang Province stating that fortune-telling was becoming more popular as people were more economically distressed.<sup>125</sup> Multiple people were persecuted for “superstitious behavior” in 2022, while citizens of Hoeryong, North Hamgyong Province placed heavy importance on *Jengwol Daeboreum*, a festival to celebrate the first full moon of the year, in order to have better luck in the new year.<sup>126</sup> In 2024, celebrations of the same holiday in Hyesan, Ryanggang Province were highlighted, despite many households being unable to eat the traditional holiday foods like five-grain rice.<sup>127</sup>

## Section 3.2: Indicators of Vulnerability

### Rations

North Korea’s centrally-planned economy forces famine theory to be rethought, particularly since there is a lack of free markets within the country. The reliance on rations, often distributed through state stores or the public distribution system (PDS), requires theoretical considerations of food insecurity to be shifted. Therefore, this section will focus on how shifts within the rations system can point to food insecurity. There are several themes from open-source literature that relate to rations and showcase food-system vulnerabilities within North Korea.

<sup>120</sup> Ha Yuna, “Announcement on Import Restrictions Leads to Panic Buying in Pyongyang” *Daily NK English*, April 24, 2020. <https://www.dailynk.com/english/announcement-import-restrictions-leads-panic-buying-pyongyang/>

<sup>121</sup> Mun Dong Hui, “N. Korea Orders Major Organizations to Fend for Themselves.” *Daily NK English*, February 27, 2020. <https://www.dailynk.com/english/north-korea-orders-major-organizations-fend-themselves/>

<sup>122</sup> Chae Eun Lee, “Chongjin Renews Crackdown on Rampant ‘Superstitious Behavior.’” *Daily NK English*, February 21, 2024. <https://www.dailynk.com/english/chongjin-renews-crackdown-rampant-superstitious-behavior/>

<sup>123</sup> “Hundreds mobilize in Hyesan to rally against fortune-telling and drug use”, Rimjin Gang, *Asia Press*, October 15, 2018. <https://www.asiapress.org/rimjin-gang/2018/10/recommendations/fortune-telling-drug-use/>; Mun Dong Hui, “Fortune Teller and Clients Arrested in Ryanggang Province” *Daily NK English*, November 5, 2018 [www.dailynk.com/english/fortune-teller-and-clients-arrested-in-ryanggang-province/](https://www.dailynk.com/english/fortune-teller-and-clients-arrested-in-ryanggang-province/); Ha Yuna, “Fortune Teller Executed by Firing Squad in North Korea,” *Daily NK English*, December 19, 2018. <https://www.dailynk.com/english/fortune-teller-executed-by-firing-squad>

<sup>124</sup> Mun Dong Hui, “Crackdown on Superstitious Behavior Leads to Life Sentence for Unlucky Fortune Teller in North Korea” *Daily NK English*, April 30, 2019. <https://www.dailynk.com/english/crackdown-on-superstitious-behavior-leads-to-life-sentence-for-unlucky-fortune-teller-in-north-korea/>; Jieun Kim, “North Korea Stages Public Executions to Strengthen ‘Social Order.’” *Radio Free Asia*, April 10, 2019. <https://www.rfa.org/english/news/korea/executions-04102019175353.html>

<sup>125</sup> “‘The 7 Year-Old Sent From God’: Why Fortune-Tellers Are Thriving Despite Regime Crackdown,” *Asiapress*, August 6, 2020. <https://www.asiapress.org/rimjin-gang/2020/08/society-economy/fortune-tellers/>

<sup>126</sup> “Regime tightens reigns on young people...A public trial and ideological struggle in February led to intensive attacks and forced participation in firing squads,” *Asiapress*, March 17, 2024. <https://www.asiapress.org/rimjin-gang/2024/03/politics/trial/>; Chae Eun Lee, “Many North Koreans Placed More Importance on a Korean Folk Festival than Kim Jong Il’s Birthday,” *Daily NK*, February 18, 2022. <https://www.dailynk.com/english/many-north-koreans-placed-more-importance-on-a-korean-folk-festival-than-kim-jong-ils-birthday/>

<sup>127</sup> Chae Eun Lee, “Hyesan Residents Pray for Peace, Prosperity during Great Full Moon Festival.”

### *Uneven or Failed Ration Distribution*

Since the beginning of the COVID-19 pandemic, there have been reports in North Korea of a greatly uneven distribution of rations to the population. Many cases find that rations have failed completely, with individuals not receiving any food rations at all, pushing them further to the brink of starvation and destitution.

During the pandemic in 2020, a source in Chagang Province reported to the *Daily NK* that North Korean authorities struggled to provide adequate food rations to locals, where workers in munitions factories, special agencies, and military units in the province had only received 15 days' worth of rations per month for five months.<sup>128</sup>

During a COVID-19 lockdown in 2022 within the Hyesan and Ryanggang Province, residents received only 15 days' worth of food rations. Working individuals received 650 grams of corn daily, while housewives with dependents received 450 grams, and students received 350 grams, all of which are far below the basic levels for sustenance.<sup>129</sup>

State-run food stores eased some restrictions on grain purchases in Hyesan during the summer of 2023, which allowed households to purchase up to 25 kilograms of grain.<sup>130</sup> Previously, households were limited to purchasing only five kilograms of grain due to capacity constraints, despite the lower prices offered by these shops compared to markets.

A study conducted by Seoul's Unification Ministry found that the majority of North Korean defectors who resettled in South Korea over the past decade reported never having received government rations in their home country. According to the 2024 study, more than 72% of defectors who arrived between 2016 and 2020 stated they had never received government food rations in North Korea, compared to 62% of those who arrived before 2000.<sup>131</sup> This underscores North Koreans' reliance on informal markets for survival, highlighting the challenges faced by citizens in accessing basic necessities in the isolated state.

### *Rations During National Holidays*

The central government of North Korea often provides citizens with gifts or extra rations during times of political national holidays. Some of these holidays include the Party Foundation Day, Solar New Year, or celebrating the birthdays of the Un leadership (present and former). It is an effective perspective to utilize how rations may shift based on the food security situation within North Korea. The regime also uses rations or gifts during these holidays in an attempt to garner public support. Since 2018, there have been several instances where rations have been altered due to food shortages.

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<sup>128</sup> Dong Hui Mun, "Chagang Province Begins Efforts to 'Resolve' Local Food Shortages," *Daily NK*, September 17, 2020. <https://www.dailynk.com/english/chagang-province-begins-efforts-resolve-local-food-shortages/>

<sup>129</sup> "Facing the spread of starvation, N. Korean authorities distribute food for free in some urban areas," Rimjin Gang, *Asia Press*, June 27, 2023. <https://www.asiapress.org/rimjin-gang/2022/06/society-economy/korona-9/>

<sup>130</sup> Chae Eun Lee, "Hyesan's State-Run Food Shops Allow Households to Buy More Grain," *Daily NK*, June 27, 2023. <https://www.dailynk.com/english/hyesan-state-run-food-shops-allow-households-buy-more-grain/>

<sup>131</sup> Hyonhee Shin, "North Korea Defectors Cite Dwindling Food Rations, Market Reliance," *Reuters*, February 6, 2024. <https://www.reuters.com/world/asia-pacific/north-korea-defectors-cite-dwindling-food-rations-market-reliance-study-2024-02-06/>

Since the 1980s, the quality of rations given during national holidays has slowly decreased. As of 2018, citizens receive items such as toothbrushes or cooking oil, while some students receive snacks or sneakers.<sup>132</sup> Despite some residents somewhat resenting these gifts, as they are accustomed to higher quality imports from China, Kim Jong Un continued to distribute such gifts.<sup>133</sup> There was evidence that these gifts, provided for the Party Foundation Day, were not distributed to several cities across Ryanggang, North Pyongan, and North Hamgyong.<sup>134</sup> For the Solar New Year holiday in 2018, authorities once again unevenly distributed special gifts such as pork and rice to regain public support, though many citizens who did not receive gifts felt neglected.

In 2022 as many farm workers faced low morale, the regime provided a one-month supply of food in certain grain-producing regions such as North Hwanghae Province, South Hwanghae Province, and South Pyongan Province.<sup>135</sup> Despite this one-month supply, it continued to be distributed unevenly which led some individuals to question the fairness of the allocation.<sup>136</sup> In a similar fashion to bolster public sentiment and in preparation for the 2022 Party Foundation Day, authorities stated that residents of Pyongyang would receive 20 days' worth of food despite food provision challenges in the city due to the COVID-19 pandemic.<sup>137</sup>

Most recently, in February of 2024, there was a notable absence of special rations for the celebration of the Day of the Shining Star (which celebrates the birthday of Kim Jong Il), leaving citizens upset and feeling that there was no festive spirit.<sup>138</sup> The disparity in businesses, some of which could not provide any special rations at all, led to complaints from workers and discussions of transferring their work to places that were distributing rations.<sup>139</sup>

The regime being unable to provide any gifts on major holidays is a clear indication that the food supply is insecure, along with factors such as production being depleted.

### *Elites and Rations*

Rations provided for elites, or lack thereof, are another indicator that may point to food insecurity. The regime being unable to provide rations to individuals who are considered politically or historically important (party elites, veterans, etc.), would be an important factor that may be rooted in severe food insecurity and food shortages.

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<sup>132</sup> "No 'special rations' provided for Party Foundation Day," *Asia Press*, October 22, 2018. <https://www.asiapress.org/rimjin-gang/2018/10/recommendations/no-special-rations/>.

<sup>133</sup> Ibid.

<sup>134</sup> Ibid.

<sup>135</sup> Seo-yeong Jeong, "N. Korea's Grain-Producing Provinces Distribute Half-Price Food to Farm Workers," *Daily NK*, May 25, 2022. <https://www.dailynk.com/english/n-korea-orders-20-days-worth-of-food-be-provided-to-pyongyangites/>.

<sup>136</sup> Ibid.

<sup>137</sup> Chae Hwan Kim, "N. Korea Orders 20 Days' Worth of Food Be Provided to Pyongyangites," *Daily NK*, September 27, 2022. <https://www.dailynk.com/english/n-korea-orders-20-days-worth-of-food-be-provided-to-pyongyangites/>.

<sup>138</sup> Ji-won Kang, "Kim Jong-il birthday festivities smaller than in the past...special rations reduced due to lack of funds...focus more on labor mobilizations, with some events canceled," *Asia Press*, February 21, 2024. <https://www.asiapress.org/rimjin-gang/2024/02/society-economy/event/>.

<sup>139</sup> Ibid.



In 2018 reports indicated a decrease in the provision of supplies and rations to descendants of individuals who fought against Japan and individuals who held state distinctions.<sup>140</sup> Historically, members of the elite, including anti-Japanese guerrillas, have received rations even when regular citizens have not. Local authorities that lacked new sources of funds struggled to provide elites with the special rations they were accustomed to. While many elites have accumulated wealth through privileges, some have become poorer due to reliance solely on state handouts.<sup>141</sup> Similarly, authorities in the same year distributed rations to military families to increase loyalty, though the extent of the rations were unclear.<sup>142</sup>

Potatoes are an important staple for North Koreans, particularly for residents in the Ryanggang Province. Individuals in this region rely on potatoes as an alternative when grain supplies are scarce. In 2022, a poor potato harvest resulted in the families of retired government workers not receiving any potato rations, leaving these families facing food shortages and hardship.<sup>143</sup>

### *Security Forces and Rations*

Rations are extremely important to North Korean security forces, such as the military and police. When rations are depleted for the security forces, that is an extremely clear sign of deprivation caused by food insecurity and low food supply. Typically, security forces are of very high priority to receive rations, of course still behind individuals such as political elites.

In 2020, the North Korean military announced a reduction in food rations for its officers to only 10 days per month for the next six months, as reported by *Daily NK*.<sup>144</sup> The order was issued on March 30, drastically cutting the food supply for military officers' families to one-third of previous levels. Sources suggested that this decision was driven by the regime's efforts to minimize costs and conserve supplies amidst the economic challenges posed by the COVID-19 pandemic.<sup>145</sup>

*Daily NK's* monitoring of a specific border patrol unit in Ryanggang Province revealed that since the border closure in January 2020, the troops consistently failed to receive their standard daily ration of 750 grams per person.<sup>146</sup> Rations were reduced to 500 grams per person between March and September of the same year, briefly increased to 600 grams in October, but then decreased again to 500 grams in January.<sup>147</sup> Between April and August 2020, troops reportedly received no rations at all. Although rations were provided in September, they amounted to just 400 grams per

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<sup>140</sup> "Some in North Korea's Elite Face Reduced Rations and Isolation from Market System," *Daily NK*, May 24, 2018.  
<https://www.dailynk.com/english/some-in-north-koreas-elite-face-re/>

<sup>141</sup> Ibid.

<sup>142</sup> Yoo Jin Kim, "Rations Restart for Some Military Families in North Korea," *Daily NK*, July 5, 2018.  
<https://www.dailynk.com/english/rations-restart-for-some-military-families-in-north-korea/#:~:text=Following%20a%20whirlwind%20of%20summits,such%20supplies%20for%20some%20time.>

<sup>143</sup> Chae eun Lee, "N. Korea's Poor Potato Harvest Leaves Many Retirees without Potato Rations," *Daily NK*, October 26, 2022.  
<https://www.dailynk.com/english/north-korea-poor-potato-harvest-leaves-many-retirees-without-potato-rations/>

<sup>144</sup> Tae Joo Jeong, "N. Korean Military Cuts Food Rations for Officers to Just 10 Days per Month," *Daily NK*, April 8, 2020  
<https://www.dailynk.com/english/north-korean-military-cuts-food-rations-officers-just-10-days-per-month/#:~:text=Daily%20NK%20military%20sources%20reported,the%20food%20they%20received%20before.>

<sup>145</sup> Ibid.

<sup>146</sup> Chae Hwan Kim, "N. Korean Border Patrol's Food Provisions Heavily Impacted by COVID-19 Border Closure,"

<sup>147</sup> Ibid.

person, including unhusked corn. As a result, soldiers resorted to obtaining food from locals, leading to instances of theft and other incidents.<sup>148</sup> A source from the report added that “since the closure of the border, unit ration systems have collapsed to a state akin to the “Arduous March” of the 1990s.”

In 2021, North Korean authorities recently supplied two months' worth of food to agents of the Ministry of State Security, but agent morale remains low due to inadequate provisions.<sup>149</sup> Agents had expressed dissatisfaction with both the quantity and quality of the provisions. Notably, the authorities omitted family allotments for ministry agents and reduced the primary allotment by 20% only consisting of brown rice that had undergone minimal processing.<sup>150</sup>

Injured soldiers, referred to as “honorable soldiers,” struggled or stopped receiving support from the state because of a worsened economic condition in 2022. A decrease in government-provided stipends and food rations has left many disabled soldiers on the verge of deprivation; for example, the daily supply of corn from the government is 500 grams which is entirely insufficient for sustenance, and meat or cooking oils are rarely included in rations.<sup>151</sup>

Conducted by *Rimjin-gang* in 2023, soldiers in North Hamgyong and Ryanggang provinces were interviewed on the grim food situation within the North Korean military. According to one soldier in his late 20s, the rations provided consisted mainly of a dish made with corn powder and rice, but soldiers received less than half a bowl, with fermented soybean paste being the only side dish available.<sup>152</sup> Another soldier stationed in an agricultural area shared similar sentiments, stating that while they were provided with wheat and barley, the rations were far from sufficient. Despite the inadequate food supply, the soldier remarked that remaining in the agricultural area was preferable to being sent back to their home base.<sup>153</sup>

Reported discontent from farmers in mid-July of 2023 also arose, stemming from the central government's decision to send harvested crops to the military instead of distributing them to the farmers as expected.<sup>154</sup> According to a 2024 *Daily NK* article, North Korean police and state security officers stationed in Pyongsong received their annual food rations but were left disappointed by the meager allocation. Despite government assertions of a bumper harvest the previous year, officers had anticipated receiving larger rations. However, their expectations were dashed when a policeman with a family of three only received 50 kilograms of rice and 200 kilograms of husked corn. An interviewed source stated that “many people were stunned by the

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<sup>148</sup> Ibid.

<sup>149</sup> Chae eun Lee, “North Korean Ministry of State Security Agents Complain of Inadequate, Low-Quality Rations,” *Daily NK*, November 9, 2021. <https://www.dailynk.com/english/north-korea-ministry-state-security-agents-complain-inadequate-low-quality-rations/>

<sup>150</sup> Ibid.

<sup>151</sup> Hyemin Son, “North Korea's Disabled Struggle to Survive with no Livelihood, Meager State Support,” *Radio Free Asia*, December 4, 2019. <https://www.rfa.org/english/news/korea/nk-disabled-2019-12042019095625.html>

<sup>152</sup> “Even military face increasing malnutrition; A soldier said ‘We don’t get even half a bowl of food...half of my comrades are in a weakened state,” *Radio Free Asia*, August 8, 2023. <https://www.asiapress.org/rimjin-gang/2023/08/military/provisions-2/>

<sup>153</sup> Ibid.

<sup>154</sup> “Spring wheat harvest is finished and delivered to the army • • • Farmers rebel without their share,” *Asiapress*, July 31, 2023. <https://www.asiapress.org/rimjin-gang/2023/07/military/harvest/>

meager size of the rations. Despite the supposedly bountiful harvest, rice prices on the market are stubbornly high and people are already talking about a grain shortage.”<sup>155</sup>

### *Lack of Rations Leading to Absenteeism and Worker Grievances*

A lack of adequate food rations has caused many laborers within North Korea to fail to come to work, or in extreme cases collapse at their respective places of work. The regime, rather than taking more direct measures to provide rations to workers, attempted to implement tighter control and crackdown on “absenteeism” and “vagrancy” among workers at state enterprises.<sup>156</sup> Many state-owned enterprises in North Korea have long been deprived of food rations and fair pay, prompting workers to seek alternative sources of income such as the black market or foraging for wild vegetables.<sup>157</sup> In response, authorities intensified attendance inspections and sent “absentees” to short-term forced labor camps known as labor training units.

The economic challenges that were intensified by the closure of the North Korean border and COVID-19 led to worsened treatment of workers in factories. Consequently, many workers resigned or left their jobs due to inadequate salaries or rations. In September of 2021 at a clothing factory, workers received 15 kilograms of white rice and 5 kilograms of soybean oil monthly as in-kind payment.<sup>158</sup> However, for the previous six months, aside from a five-day supply in early September, no food or supplies were provided.

A similar event occurred in the Hyesan Youth Copper Mine, where rations had been halted for workers. In March of 2021, workers who entered the mines received at least 5 kilograms of corn as a personal ration but starting in April, they received no personal rations or meals while working in the mines.<sup>159</sup> As a result, some workers collapsed due to working without proper sustenance.

A more unique example occurred in 2023 when North Korean kindergarten teachers faced significant financial strain due to the suspension of government food rations. With limited income, teachers have resorted to relying on their students' lunch boxes for sustenance, often critiquing the contents and even encouraging students to bring preferred side dishes.<sup>160</sup>

### *Unrest from Failed Rations*

While unrest from failed rations is rare in North Korea, there have been some significant instances reported from the failure of the central government to provide an adequate amount of food to the population. In 2023, an emergency meeting was held by the provincial party

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<sup>155</sup> Seulkee Jang, “N. Korean Police and State Security Officials in Pyongsong Receive Year’s Worth of Rations,” January 17, 2024. <https://www.dailynk.com/english/north-korean-police-state-security-officials-pyongsong-receive-year-worth-rations/>

<sup>156</sup> Jiru Ishimaru, “The Deteriorating Plight of the People (3) Economy Reaches State of Panic,” *Asiapress*, July 12, 2021. <https://www.asiapress.org/rimjin-gang/2021/07/politics/cause-3/>

<sup>157</sup> Ibid.

<sup>158</sup> “Major Factory Shuts Down as Workers Leave Following 6 Months of Unpaid Labor,” *Asiapress*, October 11, 2021. <https://www.asiapress.org/rimjin-gang/2021/10/society-economy/factories/>

<sup>159</sup> Chae eun Lee, “Hyesan Copper Mine Suspends Rations to Workers amid North Korea’s Wider Economic Troubles,” *Daily NK*, December 21, 2021. <https://www.dailynk.com/english/hyesan-copper-mine-suspends-rations-to-workers-amid-north-koreas-wider-economic-troubles/>

<sup>160</sup> Chae Eun Lee, “Chongjin Kindergarten Teachers Cobble Together Lunches from Students’ Lunchboxes,” *Daily NK*, March 29, 2023. <https://www.dailynk.com/english/chongjin-kindergarten-teachers-cobble-together-lunches-from-students-lunchboxes/>



committee of the North Hamgyong Province to discuss the distribution of food reserves. However, the distribution efforts were marred by chaos as workers, deprived of proper rations, rushed to grain shops to secure food.<sup>161</sup> This resulted in overcrowding, scuffles, and even fights among people vying to be first in line. Despite the initial distribution, grain shops closed their doors after just two days, providing only 20% of the expected grain supply.<sup>162</sup>

A situation escalated in January of 2024 when reports of some company workers who received no rations at all began to criticize the managers of the state-owned enterprises.<sup>163</sup> Provinces such as North Pyongan, Ryanggang, and Hamgyong typically provide workers with five to seven days' worth of food per month. This discontent culminated in an incident during an ideological struggle meeting on February 6, 2024, where a worker publicly criticized a workplace official for perceived incompetence in handling ration distribution.<sup>164</sup>

### Food Shortages

A clear indication of vulnerability within a population is food shortages. This follows a generally Malthusian perspective on famine theory due to its simplicity, but in certain cases, especially in North Korea, it cannot be ignored. Shortages of food can take many different forms and require a nuanced observation for identification. In North Korea, food shortages can be characterized by agricultural failure, destitution causing individuals to cease working, reserve rations being deployed, etc. Between 2018 and 2024, there were several cases of food shortages found that point to severe food insecurity.

In mid-June of 2019 during a crucial agricultural season, there were reports of North Korean farmers facing chronic food shortages which hindered their ability to work in the fields. This labor shortage was expected to reduce the agricultural capacity in certain regions as a “growing number of families in North Korea’s agricultural regions lack[ed] money and food, which has led to shortages of laborers at cooperative farms.”<sup>165</sup> The same report highlighted that around 30,000 people in Pyongsong were suffering from food shortages in this time period. Another report found that in 2019, soldiers that were stationed in rural areas (particularly the Kangwon province) resorted to stealing from civilian homes because of an inadequate supply of food for themselves.<sup>166</sup> The lack of food provisions at military bases within the rural areas of North Korea had a dire effect on young recruits, which led to starvation and acute malnutrition.

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<sup>161</sup> Seo-yeong Jeong, “N. Hamgyong Province Distributes Food to Workers at Major Factories,” *Daily NK*, March 7, 2023. <https://www.dailynk.com/english/north-hamgyong-province-distributes-food-workers-major-factories/>

<sup>162</sup> Ibid.

<sup>163</sup> “Workers frustrated by worsening workplace rations...Some call out company officials in rare rebuke,” *Asiapress*, March 14, 2024. <https://www.asiapress.org/rimjin-gang/2024/03/society-economy/gap/>

<sup>164</sup> Ibid.

<sup>165</sup> Seulkee Jang, “Estimated 10% of Pyongsong Families Face Food Shortages,” *Daily NK*, June 19, 2019. <https://www.dailynk.com/english/estimated-10-of-pyongsong-families-face-food-shortages/#:~:text=%E2%80%9CThe%20Municipal%20Party%20Committee%20stated,from%20a%20lack%20of%20food.>

<sup>166</sup> Myungchul Lee, “North Korean Soldiers Raid Homes in Search of Food,” *Radio Free Asia*, February 15, 2019, <https://www.rfa.org/english/news/korea/nk-soldiers-looting-02152019135228.html>.

Diseases can also directly impact agricultural capacity. In 2019, a farm within Chongpyong County that supplied cabbages to Pyongyang experienced a 60% decrease in its intended yield because of an “unidentified disease.”<sup>167</sup>

The onset of the COVID-19 pandemic had extreme consequences on the population and the food supply situation. Despite the pandemic, in 2020 North Korea implemented a labor-mobilization campaign to address the grain shortages (an estimated shortage of 860,000 tons) that were exacerbated by the border shutdown.<sup>168</sup> Citizens were also forced to provide food aid for construction workers who were building a new hospital in Pyongyang, underscoring the severity of the food shortage during the pandemic.<sup>169</sup>

In 2021, the nation continued to experience food shortages due to the COVID-19 pandemic. The country faced a worsening food shortage, exacerbated by a heat wave and drought, prompting the release of emergency military rice reserves.<sup>170</sup> These rice reserves were stored for “wartime use,” but were released to citizens that were experiencing food scarcity. It is a compelling indicator of food insecurity and food shortages when military allocations are utilized for public use. During 2021, North Korea was estimated to be 1 million tons short of food, with grain stockpiles depleting and the price of rice doubling in early 2021.<sup>171</sup>

Towards the end of 2022, the North Korean regime compelled citizens to donate “patriotic rice” to support the military, party officials, scientists, and other elites.<sup>172</sup> The Central Government mandated specific donation quotas based on individuals' societal roles, ranging from 5 kilograms for most citizens to 10-15 kilograms for farmers and 2-7 kilograms for students and the elderly.<sup>173</sup>

The overall food supply situation continued to worsen going into 2023. North Korea's food production decreased by approximately 180,000 metric tons in 2022 compared to the previous year, primarily due to droughts, floods, and Russian export controls on fertilizers.<sup>174</sup> The country produced an estimated 4.5 million tons of grain in 2022, a 3.8% drop from 2021, while it reportedly needs about 5.5 million tons to feed its population.<sup>175</sup> A significant sign of food scarcity emerges when farmers are unable to engage in agricultural activities due to destitution. This was documented in May 2023, revealing that 30% of farmers in the Ryanggang and

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<sup>167</sup> Yoo-Jin Kim, “Cabbage Farm Supplying Pyongyang Suffers from Pests and Disease,” *Daily NK*, July 23, 2020. <https://www.dailynk.com/english/cabbage-farm-supplying-pyongyang-suffers-pests-disease/#:~:text=The%20farm%20produces%20cabbage%20and.40%25%20of%20its%20production%20target.>

<sup>168</sup> Hyemin Son, “North Korea Conscripts Citizens for ‘Farming Battles’ During COVID-19 Crisis,” *Radio Free Asia*, May 20, 2020, <https://www.rfa.org/english/news/korea/mobilization-05202020115717.html>.

<sup>169</sup> Jieun Kim, “Rural North Koreans Forced to Provide Food Aid to Privileged Pyongyang,” *Radio Free Asia*, May 7, 2020. <https://www.rfa.org/english/news/korea/hospital-food-aid-05072020190828.html>.

<sup>170</sup> Jin-Kim Hyung, “Seoul: North Korea Releases Army Rice Reserves amid Shortage,” *AP News*, August 3, 2021. <https://apnews.com/article/business-health-seoul-coronavirus-pandemic-north-korea-5d4003cf741b7845a32a46439e143780..>

<sup>171</sup> Ibid.

<sup>172</sup> Jieun Kim, “Amid Food Shortage, North Koreans Forced to Donate ‘Patriotic Rice,’” *Radio Free Asia*, December 16, 2022. <https://www.rfa.org/english/news/korea/rice-12162022103535.html#:~:text=Despite%20widespread%20food%20shortages%20in.country%20told%20Radio%20Free%20Asia.>

<sup>173</sup> Ibid.

<sup>174</sup> Dasl Yoon, “North Korea Suffers One of Its Worst Food Shortages in Decades,” *Wall Street Journal*, March 2, 2023. <https://www.wsj.com/world/asia/north-korea-suffers-one-of-its-worst-food-crises-in-decades-ee25aa86>

<sup>175</sup> Ibid.

Chagang provinces were unable to participate in collective farming due to their weakened condition.<sup>176</sup>

In 2024, North Korea grappled with a significant rise in food poisoning cases, exacerbated by food shortages and unreliable electricity supplies, according to reports from *Daily NK*. These cases of food poisoning were most likely caused by limited access to refrigeration, although residents still consumed spoiled food because of scarcity.<sup>177</sup>

The regime and political elites did not completely wave off the evidence of increasing food insecurity and depleting supply. Prompted by reports that families were unable to attend various national political events due to insufficient food, the North Hamgyong Province branch of the Ruling Party convened in March of 2022 to address food shortages.<sup>178</sup> Despite political elites clearly seeing evidence of widespread food insecurity and shortages, state media continued to emphasize “economic independence.” The *Rodong Sinmun*, controlled by the North’s ruling Workers’ Party, cautioned against relying on “aid from the imperialists,” describing it as a trap that could lead to “looting and subjugation.”<sup>179</sup> The editorial warned that foreign aid is aimed at undermining North Korea’s economic development and regime stability, stating, “It is a mistake to try to boost the economy by taking this poisoned candy.”<sup>180</sup> Instead, the editorial stressed the necessity for North Korea to stand on its own economically to avoid being coerced by others.

## Protesting

Another indicator of vulnerability is protesting. As ordinary people suffer the brunt of the famine, participating in public protests is their way of attempting to prompt their government to intervene and improve the situation. There is evidence, albeit limited, of North Korean public protests in response to severe poverty amid the ongoing food crisis, despite the absence of civil society under the totalitarian regime. The fact that the North Korean people are willing to participate in some form of organized protest indicates the severity of food insecurity.

In Hyesan, Ryanggang Province, two groups in particular have been observed participating in public protests: elderly people and merchants. In 2022, the city’s third lockdown in under four months was lifted after just two days following protests by locals, especially the elderly, who complained they would starve to death if the lockdown commenced.<sup>181</sup> More recently, poverty-stricken people, including several elderly, have been gathering in groups daily outside of local government and party offices to demand food and other measures addressing the food situation.<sup>182</sup> Merchants and vendors are also increasingly gathering on the streets to illegally sell

<sup>176</sup> Sung Whui Moon and Do Hyung Han, “Food Shortage Spreads in North Korea, with Some Starving Farmers Unable to Work,” *Radio Free Asia*, May 23, 2023. <https://www.rfa.org/english/news/korea/food-05232023121954.html>

<sup>177</sup> Mun Dong Hui, “N. Korea’s Electricity and Food Shortages Lead to Frequent Cases of Food Poisoning.”

<sup>178</sup>

Jong So Yong, “North Hamgyong Province Convenes Meeting to Address Food Shortages,” *Daily NK English*, March 4, 2022. <https://www.dailynk.com/english/north-hamgyong-province-convenes-meeting-to-address-food-shortages/>

<sup>179</sup> Michael Lee, “North Strives for Autarky Even as Food Shortages Worsen,” *Korea JoongAng Daily*, February 22, 2023. <https://koreajoongangdaily.joins.com/2023/02/22/national/northKorea/Korea-North-Korea-food-insecurity/20230222171337544.html>

<sup>180</sup> Ibid.

<sup>181</sup> “The lockdown in Hyesan suddenly lifted after only two days, due to strong opposition,” *Asiapress*, March 11, 2021. <https://www.asiapress.org/rimjin-gang/2021/03/society-economy/lockdown-in-hyesan/>

<sup>182</sup> “Poverty-stricken people gather in front of government and party headquarters in Yanggang Province to demand food,” *Asiapress*, February 21, 2021. <https://www.asiapress.org/rimjin-gang/2023/02/society-economy/hinkon-2/>

goods and openly express their discontent with the government, even as police launch crackdowns on streetside commerce for “disturbing social order.”<sup>183</sup> In response to the crackdowns, merchants have been witnessed confronting and loudly arguing with police.<sup>184</sup> Such protests indicate that both groups have been particularly impacted by food insecurity and economic struggles resulting from the border closures.<sup>185</sup>

Similar events have been reported in other parts of the country. A 70-year-old woman in South Hamgyong Province resorted to asking officials for help feeding the two children she was raising.<sup>186</sup> After receiving no help, the woman responded by “going around downtown shouting that the party cadres are ‘con artists’ who ‘don’t give a hoot even though people are starving to death.’”<sup>187</sup> In Songchon County, South Pyongan Province, a woman in her forties was arrested after publicly protesting and denouncing authorities.<sup>188</sup> The woman had reportedly been the sole breadwinner for her large family and had lost her livelihood due to the pandemic.<sup>189</sup> Similarly, in Ryongchon County, North Pyongan Province, a man in his forties was arrested for burning down his house and verbally abusing law enforcement after authorities destroyed his seafood business and caused his family undue hardships.<sup>190</sup> The latter two people were committed to mental institutions for their public protests.<sup>191</sup>

The increasing reports of public protests in North Korea indicate the severity of food insecurity among particularly vulnerable groups like street vendors and the elderly. As long as the government continues ignoring its people’s pleas for help, civil unrest will likely only worsen, presenting the North Korean government with significant domestic pressures that will almost certainly affect its long-term political stability.

### **Government seizure of land for new construction**

A critical indicator of vulnerability perhaps unique to North Korea is the government’s seizure of land for massive housing reconstruction projects. By seizing privately owned land that was once used to grow food in order to build multi-story apartment buildings, the government is eliminating key food sources for many families. The loss of this food production represents the loss of a major household coping mechanism, thus suggesting worsening food insecurity in parts of North Korea that have been targeted for these projects.

One area that may be particularly harmed by the government’s seizure of land is the Komdok region in South Hamgyong Province. Once a major coal mining area, Komdok has undergone a

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<sup>183</sup> Chae eun Lee, “N. Korean Police Launch Intense crack down on Street Vendors,” *Daily NK*, September 6, 2022. <https://www.dailynk.com/english/n-korean-police-launch-intense-crack-down-on-street-vendors/>

<sup>184</sup> “Rising Prices, Rising Tensions.” Rimjin Gang, *Asiapress*, May 11, 2020. <https://www.asiapress.org/rimjin-gang/2020/05/recommendations/mass-protest/>

<sup>185</sup> “Poverty-stricken people gather in front of government and party headquarters in Yanggang Province to demand food,” *Asiapress*

<sup>186</sup> Chae eun Lee, “Elderly Woman in Hamhung ‘Talk of the Town’ after Publicly Criticizing Provincial Party Secretary,” *Daily NK*, December 29, 2021. <https://www.dailynk.com/english/elderly-woman-hamhung-talk-town-after-publicly-criticizing-provincial-party-secretary/>

<sup>187</sup> Ibid.

<sup>188</sup> Hyemin Son, “North Korea Commits Two People to Mental Institutions After Public Outbursts,” *Radio Free Asia*, July 23, 2021. <https://www.rfa.org/english/news/korea/mental-07232021124603.html>

<sup>189</sup> Ibid.

<sup>190</sup> Ibid.

<sup>191</sup> Ibid.

major five-year housing reconstruction project launched by Kim Jong Un following the area's devastation by Typhoon Maysak in September 2020.<sup>192</sup> The plan was designed to renovate single-story homes according to "modern North Korean architectural standards that are more commonly found in Pyongyang than deep in the countryside."<sup>193</sup> According to North Korean media, over 20,000 multi-story apartment buildings have already been built in Komdok in just over three years, putting the plan about a year ahead of schedule.<sup>194</sup> The elimination of private kitchen gardens in this area is extremely concerning.

### Section 3.3: Indicators of Imminent Crisis

#### Selling family antiques/possessions

Selling family antiques or possessions is a core indicator of imminent crisis, as laid out by the framework discussed in the methodology section. This is a psychological barrier that, when crossed, showcases that an individual has reached dire limits of food security issues.<sup>195</sup> In general, selling any possessions in such a tightly controlled economy could point to a crisis in the waiting.

Many North Koreans who are on the brink of destitution will sell their houses. In 2019, a North Korean mother and daughter were reported having sold their house, to reside in the mountains in a hut that was made only from mud and wood.<sup>196</sup> COVID-19 further pushed individuals into selling their items and houses. A source told *Rimjin-Gang* that people who run out of money will "borrow money, rice, or corn from their neighbors or acquaintances. When that becomes difficult, they pawn or sell their household goods. In our neighborhood, we often see debt collectors barging in and taking away everything, even pot kettles. The only recourse left is to turn to crime or, in the case of women, prostitution. In the end, they sell their houses"<sup>197</sup>

In 2021, still in the midst of the pandemic, market vendors were struggling to make any money due to economic setbacks. Lockdowns forced many vendors to sell their markets entirely. A source stated to the DailyNK that "local residents are saying that these times are similar to the days of the Arduous March. People back then sold their houses because of the sudden crisis, but now locals who have made their living through trade are now selling their market stalls. There is even talk of selling their houses and sleeping on paper in the streets if this situation continues."<sup>198</sup>

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<sup>192</sup> Martyn Williams and Iliana Ragnone, "Komdok's Massive Housing Project Appears Ahead of Schedule," *38 North*, February 28, 2024. <https://www.38north.org/2024/02/komdoks-massive-housing-project-appears-ahead-of-schedule/>

<sup>193</sup> Ibid.

<sup>194</sup> Ibid.

<sup>195</sup> Frederick C. Cuny and Richard B. Hill, *Famine, Conflict and Response: A Basic Guide*, Kumarian Press, February 1, 1999.

<sup>196</sup> Jin, Kim Yoo. "North Korean Mother and Daughter in Abject Poverty Go Missing." *Daily NK English*, 17 Jan. 2020. [www.dailynk.com/english/north-korean-mother-and-daughter-in-abject-poverty-go-missing/](http://www.dailynk.com/english/north-korean-mother-and-daughter-in-abject-poverty-go-missing/).

<sup>197</sup> Jiro Ishimaru, "Death Toll Rising: The Serious Humanitarian Crisis in North Korea is a Man-made Disaster," *Asiapress*, July 5, 2021. <https://www.asiapress.org/rimjin-gang/2021/07/society-economy/kiga/>

<sup>198</sup> Seo-Yeong Jeong, "Some Businesspeople in North Korea Are Selling Their Market Stalls" *Daily NK*, January 19, 2021. <https://www.dailynk.com/english/some-business-people-north-korea-selling-market-stalls/#:~:text=Some%20businesspeople%20in%20North%20Korea%20are%20selling%20their%20market%20stalls,-The%20number%20of&text=Some%20businesspeople%20in%20North%20Hamgyong,to%20sell%20their%20market%20stalls.>



There have been reports of North Koreans who live along the Chinese border selling their homes at extremely low prices to raise money for food in 2019, as the winter season is extremely harsh.<sup>199</sup> A source told *Radio Free Asia* that “strange housing transactions are increasing with the sudden drop in temperature. Poor residents, who are suffering from hardship, are selling their houses to buy food, while rich people are taking advantage of this opportunity to buy houses at low prices.”<sup>200</sup>

### **Hoarding of food (market-based)**

Individuals hoarding food during a food security crisis is a sign of vulnerability. However, market-based hoarding points to an indicator of imminent crisis, as it is done at a much larger scale with broader repercussions within a community or city. Additionally, market-based hoarding can affect prices within a market. These price fluctuations can also be seen within North Korea, despite its centrally-planned economic system.

Wholesalers were reported to have been making large amounts of money in 2020, as they were hoarding rice stocks during a time of scarcity.<sup>201</sup> These wholesalers had only released some of their stocks into the markets to intentionally keep market prices high. A kilogram of rice was selling for 5,500 North Korean Won (KPW) in July of 2021 but climbed up to 6,000 KPW in August 2021, attributed to people refusing to sell off their stocks of food.<sup>202</sup>

The central government created an organization in 2021 to monitor and punish illegal hoarding of food and price gouging by food sellers.<sup>203</sup> This effort was found to be difficult, as many of the wholesalers that were hoarding food were members of the *donju*, a wealthy entrepreneurial class. Many officers in charge of cracking down on hoarding were susceptible to corruption and bribes, therefore being easily swayed to not pay attention to certain cases of hoarding.<sup>204</sup>

## **Section 3.4: Indicators of Famine (Trailing Indicators)**

### **Acute Malnutrition**

One of the most self-evident indicators of famine is acute malnutrition resulting from starvation. Without the necessary vitamins and nutrients from food to sustain normal growth, the human body gradually begins to shrink and waste away. During famines, malnourished individuals can appear physically emaciated, gaunt, and sickly as a result of starvation. Although reliable data assessing the physical health and well-being of North Koreans is limited, there have been

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<sup>199</sup> Jieun Kim, “Desperate North Koreans Sell Homes to Raise Money for Food,” *Radio Free Asia*, November 29, 2021. <https://www.rfa.org/english/news/korea/homes-11292021203549.html>

<sup>200</sup> Ibid.

<sup>201</sup> Mi Jin Kang, “N. Korean Rice Sellers Raking It in Thanks to Skyrocketing Prices,” *Daily NK*, February 26, 2020. <https://www.dailynk.com/english/north-korean-rice-sellers-raking-it-in-thanks-skyrocketing-prices/>

<sup>202</sup> Chae Eun Lee, “Still No Signs That North Korea Is Distributing Food to Ordinary People,” *Daily NK*, July 28, 2021. <https://www.dailynk.com/english/still-no-signs-north-korea-distributing-food-ordinary-people/>

<sup>203</sup> Chae Eun Lee, “North Korea Creates New Nationwide Organization to Monitor and Crack down on Food Hoarding and Price Gouging,” *Daily NK*, July 7, 2021. <https://www.dailynk.com/english/north-korea-creates-new-nationwide-organization-monitor-crack-down-food-hoarding-price-gouging/>

<sup>204</sup> Ibid.

numerous reports indicating widespread acute malnutrition resulting from severe food insecurity. The height of malnutrition reports was observed from 2021-2022, but reports have continued well into 2023-2024.

One key group affected by acute malnutrition is North Korean children. Women in Hoeryong, North Hamgyong Province reported “weeping [at the sight of] their hungry children growing even more emaciated” during “times like the present when people are floundering in poverty and fainting from hunger.”<sup>205</sup> A seven-year-old child was found dead from starvation and malnutrition in North Pyongan Province, while several other family members were found passed out from hunger.<sup>206</sup> In Rason, a city that has historically been more economically stable due to its pre-border closure trade with China, increasing reports of children collapsing from malnutrition led the government to provide children with two pieces of bread per day.<sup>207</sup> Strikingly similar reports from other provinces thus confirm that children are suffering from severe malnutrition as a result of hunger.

Reports also indicate that severe malnutrition is preventing North Korean adults from performing their regular work duties. An elderly man in Sariwon, North Hwanghae Province reportedly collapsed from malnutrition after being mobilized to help with farmwork, leading municipal Party officials to reduce work hours.<sup>208</sup> In Hyesan, Ryanggang Province, only 20 percent of *inminban*, or neighborhood watch units, were able to participate in spring 2023 mobilizations due to weakness from severe malnutrition.<sup>209</sup> Mine workers in Musan County, North Hamgyong Province were unable to go to work due to malnutrition, having received only six kilograms of corn for the entire month of April in 2023.<sup>210</sup> On a collective farm in North Hamgyong Province, nearly 30 percent of the farm’s employees and their families faced starvation, with several farmers suffering from swollen faces and unable to stand up due to severe malnutrition.<sup>211</sup> Similarly, 30 percent of people living in Kapsan County, Ryanggang Province were reportedly unable to work due to malnourishment.<sup>212</sup> Overall, these reports and several other similar ones confirm that severe malnutrition resulting from food insecurity is affecting adults across North Korea, resulting in a significant reduction in labor force participation.

Severe food insecurity has even filtered to the so-called ‘invincible’ Korean People’s Army, as indicated by reports of observed malnutrition among North Korean soldiers. In March 2024, in-

<sup>205</sup> Chae Eun Lee, “Rodong Sinmun Editorial Rubs Some N. Korean Women the Wrong Way,” *Daily NK*, March 14, 2024. <https://www.dailynk.com/english/rodong-sinmun-editorial-rubs-some-north-korean-women-wrong-way/>

<sup>206</sup> Chae Eun Lee, “More and More N. Pyongan Province Families Pass out Due to Hunger,” *Daily NK*, February 17, 2023. <https://www.dailynk.com/english/more-more-north-pyongan-province-families-pass-out-due-hunger/>

<sup>207</sup> Seo Yeong Jeong, “Rason Takes Action amid Reports of Children Collapsing from Hunger,” *Daily NK*, June 24, 2024. <https://www.dailynk.com/english/rason-takes-action-amid-reports-children-collapsing-hunger/>

<sup>208</sup> Seo Yeong Jeong, “Sariwon Reduces Work Hours on Farms after Elderly Man Collapses from Malnutrition,” *Daily NK*, June 12, 2023. <https://www.dailynk.com/english/sariwon-reduces-work-hours-farms-after-elderly-man-collapses-malnutrition/#:~:text=A%20an%20elderly%20individual%20who.all%20hands%20on%20deck%20situation.>

<sup>209</sup> “Famine in the provinces: Many people have died from the start of May due to starvation and disease. Workers can’t go to work due to malnutrition — even at DPRK’s largest iron mine,” *Asiapress*. May 22, 2023. <https://www.asiapress.org/rimjin-gang/2023/05/society-economy/famine2/>

<sup>210</sup> Ibid.

<sup>211</sup> “The government distributes emergency rations to starving farmers... ‘Some farmers are so malnourished they can’t stand up,’” *Asiapress*, August 23, 2022. <https://www.asiapress.org/rimjin-gang/2022/08/society-economy/peasant/>

<sup>212</sup> Lee Chae Eun, “Yanggang Province Calls on Security and Police Officials to Help Resolve Food Shortages,” *Daily NK English*, June 14, 2022. <https://www.dailynk.com/english/yanggang-province-calls-on-security-and-police-officials-to-help-resolve-food-shortages/>

country residents reported that it is common to see “emaciated” North Korean soldiers with “thin necks and bulging bellies” patrolling the streets.<sup>213</sup> Such traits suggest that North Korean soldiers are suffering from kwashiorkor, a form of malnutrition caused by severe protein deficiency and characterized by swollen, distended abdomens as a result of fluid retention. The prevalence of kwashiorkor among soldiers is likely the result of severe food shortages and reduced rations on military bases since April 2023, with soldiers in North Hamgyong and Ryanggang Provinces reporting that more than half their comrades are weak from malnutrition as they receive less than half a bowl of food daily.<sup>214</sup> To hide their emaciated stature, soldiers are supposedly now permitted to grow their hair up to 30 centimeters long in order so that they no longer resemble malnourished prisoners with shaved heads, thus reflecting how bad the food situation has become even for soldiers in North Korea.<sup>215</sup> The inability of soldiers to perform their normal operations threatens North Korea’s future defense and military capabilities.

Additional evidence of malnutrition lies in identifying the presence of an often-overlooked indicator: tuberculosis. According to a recent study published by *BMC Global and Public Health*, there is a direct link between malnutrition and tuberculosis, as the former increases the risk for TB progression and severity and worsens TB treatment outcomes.<sup>216</sup> An estimated 19 percent of TB incidents worldwide are directly attributed to malnutrition, the world’s leading cause of secondary immunodeficiency, despite global TB elimination efforts primarily focusing on treating HIV/AIDS.<sup>217</sup> Identifying communities suffering from TB-malnutrition comorbidity thus provides a likely indicator of severe food insecurity. In Musan County, North Hamgyong Province, many people who reportedly suffered from preexisting conditions including TB starved to death after eating only one meal a day.<sup>218</sup> The widespread prevalence of TB thus confirms that malnutrition and immunodeficiency resulting from severe food insecurity are affecting many North Koreans.

### Death from Starvation or Famine-Related Diseases

The natural progression of malnutrition is death from starvation or famine-related diseases. Such deaths represent the ultimate culmination of untreated malnutrition and thus comprise another indicator of famine.

Significant reports of starvation-related deaths in North Korea appear to have begun in 2021 during COVID-19 lockdown restrictions and market crackdowns which contributed to the collapse of the economy and the public distribution system. Reports from July 2021 in North Hamgyong Province suggest that people were starving to death on a large scale, especially

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<sup>213</sup> Jieun Kim, “North Korean Citizens Ordered to Provide Cloths for Soldiers to Wrap Their Feet,” *Radio Free Asia*, March 20,

2024. <https://www.rfa.org/english/news/korea/footwrap-03202024095335.html>

<sup>214</sup> “Even military face increasing malnutrition; A soldier said ‘We don’t get even half a bowl of food...half of my comrades are in a weakened state,” *Radio Free Asia*, August 8, 2023. <https://www.asiapress.org/rimjin-gang/2023/08/military/provisions-2/>

<sup>215</sup> Jieun Kim, “To Boost Image, North Korea Permits Soldiers Grow out Hair up to 3 Centimeters,” *Radio Free Asia*, February 3, 2023. <https://www.rfa.org/english/news/korea/hair-02032023174126.html>

<sup>216</sup> Dauphinais et al., “Nutritionally Acquired Immunodeficiency Must Be Addressed with the Same Urgency as HIV to End Tuberculosis,” *BMC Global and Public Health*, January 12, 2024. <https://bmcbglobalpublichealth.biomedcentral.com/articles/10.1186/s44263-023-00035-0>

<sup>217</sup> Ibid.

<sup>218</sup> “Famine in the provinces: Many people have died from the start of May due to starvation and disease. Workers can’t go to work due to malnutrition — even at DPRK’s largest iron mine,” *Asiapress*. May 22, 2023. <https://www.asiapress.org/rimjin-gang/2023/05/society-economy/famine2/>



elderly people who lived alone.<sup>219</sup> Similar events were observed in North Pyongan Province, where residents reported that internal restriction movements designed to prevent the spread of COVID-19 caused a spike in “chronic food shortages” among households unable to travel to do business or obtain food, resulting in widespread starvation-related deaths.<sup>220</sup> Starvation-related deaths were also reported in Chagang Province, with the towns of Chasong and Manpo even lifting their lockdown restrictions early because “100 people starved to death” in both towns during the lockdown period.<sup>221</sup> Ryanggang Province also reported an increase in food-poor households and starvation-related deaths during 2022 due to lockdown restrictions.<sup>222</sup>

Starvation-related deaths persisted even after the government lifted maximum emergency restrictions claiming victory over COVID-19. In 2022, residents of Ryanggang Province reported continued mass deaths due to starvation and the persisting spread of COVID-19 during the onset of cooler weather conditions.<sup>223</sup> Reports of increasing starvation-related deaths in North Korea continued well into 2023. June 2023 interviews with *Rim-jin-gang* reporting partners revealed that one-third of households in the northern region were starving to the brink of death.<sup>224</sup> A statement from South Korea’s National Intelligence Service in August 2023 reported that the number of people who died from starvation in North Korea from January to July 2023 was more than double compared to the average over the past five years.<sup>225</sup> In-country *BBC* correspondents revealed that people living in and around Pyongyang have also increasingly starved to death either at home or in the mountainsides where they disappear to die.<sup>226</sup>

Such evidence suggests that while significant reports of starvation-related deaths began in 2021 during COVID-19 lockdown restrictions, the impact of the restrictions was still felt well after in 2022-2023 as people continued dying from starvation amid ongoing food insecurity.

### Rise in Suicides

Similar to starvation-related deaths, a rise in suicides may also indicate the presence of severe famine, as people would rather choose to end their lives than slowly waste away from hunger and famine-related diseases. Numerous reports of suicides amid food shortages in North Korea indicate noteworthy food insecurity.

*Radio Free Asia* reported that in addition to the rise in murder and violent crimes that have occurred amid severe food shortages in North Korea, the country has also seen a significant rise

<sup>219</sup> Jiru Ishimaru, “The Deteriorating Plight of the People (3) Economy Reaches State of Panic,” *Asiapress*, July 12, 2021. [www.asiapress.org/rimjin-gang/2021/07/politics/cause-3/](http://www.asiapress.org/rimjin-gang/2021/07/politics/cause-3/)

<sup>220</sup> Mun Dong Hui, “Restrictions on Movement in North Korea Are Causing ‘Severe Side Effects.’” *Daily NK English*, January 20, 2021. <https://www.dailynk.com/english/restrictions-movement-north-korea-causing-severe-side-effects/>.

<sup>221</sup> Yuna Ha, “North Korea Lifts Lockdowns in Chagang Province’s Chasong and Manpo,” *Daily NK*, February 23, 2021. <https://www.dailynk.com/english/north-korea-lifts-lockdowns-chasong-manpo-chagang-province/>

<sup>222</sup> Yuna Ha, “Lack of Food Leads to Deaths from Hunger in Sinuiju,” *Daily NK*, April 11, 2020. <https://www.dailynk.com/english/lack-food-leads-deaths-hunger-sinuiju/>

<sup>223</sup> Hyemin Son, “Deaths Continue a Month after North Korea Declared ‘Victory’ over COVID,” *Radio Free Asia*, September 23, 2022. [https://www.rfa.org/english/news/korea/covid\\_numbers-09232022185359.html](https://www.rfa.org/english/news/korea/covid_numbers-09232022185359.html)

<sup>224</sup> “Interview About Conditions Inside North Korea Pt.1 -Is it true that people have died of starvation?” *Rimjin Gang*, *Asia Press*, July 26, 2023. <https://www.asiapress.org/rimjin-gang/2023/07/movie/kigal/>

<sup>225</sup> Myung Chul Lee, “Violent Crime Is Rising in North Korea amid Food Shortages,” *Radio Free Asia*, August 23, 2023. <https://www.rfa.org/english/news/korea/crime-08232023123738.html>

<sup>226</sup> Jean Mckenzie, “North Korea: Residents tell BBC of neighbours starving to death”, *BBC*, June 14, 2023. <https://www.bbc.com/news/world-asia-65881803>

in suicides. Following the second 30-day lockdown of Hyesan, Ryanggang Province in January 2022, residents facing starvation reportedly began committing suicide out of desperation.<sup>227</sup> Things have only appeared to worsen since. According to a report from South Korea's National Intelligence Service in May 2023, the national suicide rate in the DPRK increased by 40 percent compared to the same period last year, in conjunction with the rise in starvation-related deaths observed during the same timeframe.<sup>228</sup>

According to *Rimjin-gang* reporting partners in North Hamgyong and Ryanggang Provinces, most people commit suicide by overdosing on opium or ingesting rat poison so that they can escape hunger and “die without pain in their sleep.”<sup>229</sup> One case saw a couple commit suicide by putting rat poison in baked chicken, leaving their six-year-old child an orphan.<sup>230</sup>

There have also been reported cases of group suicide as entire households kill themselves to escape difficult conditions stemming from starvation and malnutrition.<sup>231</sup> In Ryanggang Province, a note left by one family in Bocheon County who committed group suicide read, “No matter how loyal and sincerely I work for the Workers’ Party, I can’t even feed my son a single meal as I watch him waste away. It’s too hard to die alone, so we go together.”<sup>232</sup> Another report saw a family in Pungso County take their own lives after suffering from prolonged starvation and economic distress.<sup>233</sup> In North Hamgyong Province, a reported case from Hoeryong saw a family of four commit group suicide citing economic hardships and food insecurity following market crackdowns during COVID-19.<sup>234</sup> Prior to the suicide, the mother was spotted purchasing several kinds of food in the market, apparently using borrowed money to purchase all the food they hadn’t been able to afford for months as a last supper.<sup>235</sup> *Rimjin-gang* reporting partners from Musan County noted similar reports of families killing themselves by ingesting rat poison to escape poor financial situations.<sup>236</sup> Cases of hunger-related suicides were also reported in other parts of the country including Pihyon County, North Pyongan Province.<sup>237</sup>

*BBC* confirmed that reports of suicide amid food shortages were heard in Pyongyang, with residents reporting stories of people killing themselves at home or fleeing to the mountains to die

<sup>227</sup> “Crime and Suicide on the Rise as Border City Residents Face Starvation in Second 30-Day Lockdown,” *Asiapress*, February 9, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/lockdown-2/>

<sup>228</sup> Myung Chul Lee, “Violent Crime Is Rising in North Korea amid Food Shortages,” *Radio Free Asia*, August 23, 2023. <https://www.rfa.org/english/news/korea/crime-08232023123738.html>

<sup>229</sup> “The Kim Jong-un regime prevents news of frequent suicides from spreading,” *Asiapress*, July 14, 2023. <https://www.asiapress.org/rimjin-gang/2023/07/society-economy/suicides/>

<sup>230</sup> “Famine in the provinces: Many people have died from the start of May due to starvation and disease. Workers can’t go to work due to malnutrition — even at DPRK’s largest iron mine,” *Asiapress*, May 22, 2023. <https://www.asiapress.org/rimjin-gang/2023/05/society-economy/famine2/>

<sup>231</sup> “The Kim Jong-un regime prevents news of frequent suicides from spreading,” *Asiapress*, July 14, 2023. <https://www.asiapress.org/rimjin-gang/2023/07/society-economy/suicides/>

<sup>232</sup> Ibid.

<sup>233</sup> Seo Yeong Jeong, “Yanggang Province Family Found Dead after Prolonged Bout of Starvation,” *Daily NK*, December 12, 2022. <https://www.dailynk.com/english/yanggang-province-family-found-dead-after-prolonged-bout-starvation/>

<sup>234</sup> Chae Eun Lee, “Facing Severe Financial Troubles, Hoeryong Family of Four Takes Their Own Lives,” *Daily NK*, March 30, 2023. <https://www.dailynk.com/english/facing-severe-financial-troubles-hoeryong-family-four-takes-own-lives/>

<sup>235</sup> Ibid.

<sup>236</sup> “Shocking levels of urban poverty forces an increasing number of people to abandon cities to beg in rural areas,” *Asiapress*, October 6, 2022. <https://www.asiapress.org/rimjin-gang/2022/10/society-economy/konkyu-2/>

<sup>237</sup> Seulkee Jang, “N. Koreans Driven to Extremes amid Difficult Economic Conditions,” *Daily NK*, September 26, 2022. <https://www.dailynk.com/english/north-koreans-driven-extremes-amid-difficult-economic-conditions/>

because they could not feed themselves.<sup>238</sup> Kim Jong Un seems to realize how bad this looks for national security. The regime has made stringent efforts to ensure that news of starvation-related deaths and suicides does not spread, as suicides are considered an anti-state and anti-party act in North Korea.<sup>239</sup> In-country reporters confirmed that the regime refers to all reports of starvation deaths and suicides as “groundless rumors,” sending those who discuss them to forced labor camps as punishment.<sup>240</sup> In June 2023, Kim Jong Un issued a secret order for local authorities to prevent suicides in their jurisdictions or be held accountable, defining suicide as “an act of treason against socialism.”<sup>241</sup> Clearly, the regime knows it has a growing food insecurity problem and is doing everything possible to hide the indicators from the North Korean people.

### **Presence of corpses on streets and public places**

Another trailing indicator of famine which results from malnutrition and starvation is the presence of corpses on streets and in public places. While the immediate cause of death may not always be clear, oftentimes the corpses found are clearly emaciated and show signs of malnutrition that indicate death from starvation. Moreover, the presence of corpses in public places confirms that the deaths are not simply a one-off occurrence resulting from natural causes. Rather, the corpses indicate the presence of a widespread famine that is likely displacing the most vulnerable populations as they search or beg for food wherever they can find it, oftentimes leading them to city streets or other public places.

In the case of North Korea, the presence of corpses in public places has been observed on a small scale in independent cases. The 2019 border closure and lack of access to more robust on-the-ground reporting in North Korea means that the actual number of corpses found in public places is likely higher than reported. While the number of reported cases may not be sufficient to definitively indicate the presence of a widespread famine, the surrounding circumstances and the manner in which the corpses were found all indicate the prevalence of acute food insecurity leading to multiple deaths.

According to *Rimjin-gang*, corpses of the growing wandering homeless population, or *kotjebi*, were found in cities throughout North Korea’s northern region, as poor, struggling families increasingly abandon their elderly relatives and children because they do not have enough food to feed the entire household.<sup>242</sup> During the harshest part of the winter freeze that struck North Korea in January 2023, the corpses of *kotjebi* who froze to death “could be found everywhere” in Musan County, Hamgyong Province.<sup>243</sup> A “large number of frozen bodies” were found in mud hut windbreak shelters, cornfields, and public markets, indicating that these people were likely

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<sup>238</sup> Jean McKenzie, “North Korea: Residents tell BBC of neighbours starving to death”

<sup>239</sup> “The Kim Jong-un regime prevents news of frequent suicides from spreading,” *Asiapress*, July 14, 2023. <https://www.asiapress.org/rimjin-gang/2023/07/society-economy/suicides/>

<sup>240</sup> “Crime and Suicide on the Rise as Border City Residents Face Starvation in Second 30-Day Lockdown,” *Asiapress*, February 9, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/lockdown-2/>

<sup>241</sup> Jieun Kim, “Suicide Spike in North Korea Prompts Kim Jong Un to Issue Prevention Order,” *Radio Free Asia*, June 5, 2023. <https://www.rfa.org/english/news/korea/suicide-06052023162051.html>

<sup>242</sup> “Increase in Wandering Homeless People throughout North Korea...poverty-Stricken Elderly People and Children Forced out into the Streets, with Some Even dying...The Authorities Order Thorough Measures to Be Taken” *Rimjin Gang*, *Asia Press*, April 25, 2023. <https://www.asiapress.org/rimjin-gang/2023/04/society-economy/homeless/>

<sup>243</sup> Ibid.

searching for food.<sup>244</sup> Corpses were also found on the streets and in crowded places like train stations in North Hamgyong as large numbers of beggars, including children, died from hunger.<sup>245</sup> According to a *Radio Free Asia* source, food shortages were so dire during the winter that even the employed deserted their homes and workplaces to subsist on hunting and fishing in remote areas because they could not afford to buy food, with many of them going missing.<sup>246</sup>

Reports of starvation-related deaths continued on well after winter. In the city of Hoeryong, North Hamgyong Province, the body of a young girl wearing tattered clothes, likely an abandoned youth *kotjebi* in search of food, was found under a bridge in a nearby village in April 2023.<sup>247</sup> In the city of Hyesan, Ryanggang Province, the bodies of a mother in her forties and her teenage son were found in their home in Yonbong 2-dong, the city's poorest neighborhood.<sup>248</sup> According to a *DailyNK* source, families living there "could barely put meals together even before COVID-19" and struggled to put together "even one proper meal per day."<sup>249</sup> Evidence suggests that the pair likely died from hunger and cold as market crackdowns following the pandemic further limited households' ability to make money.<sup>250</sup> Another corpse was found in Hyesan in March 2023 when the body of an elderly man was found after his family abandoned him due to economic difficulties and insufficient food supply.<sup>251</sup>

The presence of corpses in public places thus confirms that those most vulnerable to the famine were the poorest people unable to cope with the food shortages.

### Mass graves

A pronounced indicator of famine is aggregation of numerous corpses in mass graves. This typically occurs during famines when mass numbers of people are dying in a short timeframe, and the state or individual families have no other choice but to bury the dead wherever land is available.

For the purposes of our research, we were unable to locate specific sites of mass graves in North Korea using GIS imaging. The use of crematoriums coupled with the fact that families tend to

<sup>244</sup> "Harsh cold snap in January leads to death toll, with frozen bodies found in fields or inside mud huts...Authorities order closer monitoring of the people in response to rise in wandering people." *Asiapress*, February 10, 2023. <https://www.asiapress.org/rimjin-gang/2023/02/society-economy/frozen/>

<sup>245</sup> Jieun Kim, "More Missing North Koreans amid Colder Weather and Food Shortages" *Radio Free Asia*, December 12, 2022, <https://www.rfa.org/english/news/korea/missing-12222022183657.html>

<sup>246</sup> Ibid.

<sup>247</sup> "Increase in Wandering Homeless People throughout North Korea...poverty-Stricken Elderly People and Children Forced out into the Streets, with Some Even dying...The Authorities Order Thorough Measures to Be Taken" Rimjin Gang, *Asia Press*, April 25, 2023. <https://www.asiapress.org/rimjin-gang/2023/04/society-economy/homeless/>

<sup>248</sup> Chae eun Lee, "N. Korean Mother and Son Found Dead in Hyesan Home," *Daily NK*, January 9, 2023. <https://www.dailynk.com/english/north-korean-mother-son-found-dead-hyesan-home/>

<sup>249</sup> Ibid.

<sup>250</sup> Ibid.

<sup>251</sup> "Increase in Wandering Homeless People throughout North Korea...poverty-Stricken Elderly People and Children Forced out into the Streets, with Some Even dying...The Authorities Order Thorough Measures to Be Taken" Rimjin Gang, *Asia Press*, April 25, 2023. <https://www.asiapress.org/rimjin-gang/2023/04/society-economy/homeless/>

clandestinely bury their relatives at night in remote areas also contribute to the lack of identifiable mass graves.<sup>252 253</sup>

Although we were unable to identify specific locations of mass graves in North Korea, limited on-the-ground reports do suggest that they exist. In Chongjin, North Hamgyong Province, increased death tolls from COVID-19 coupled with rising poverty and food insecurity have reportedly led residents to secretly bury their deceased family members in unmarked graves to avoid funeral costs.<sup>254</sup> This departure from traditional filial piety indicates a population under severe distress of starvation and starvation-related deaths. This situation only appears to have worsened over time. A spring 2023 investigation by *Rimjin-gang* found multiple bodies, likely those of wandering *kotjebi* who froze or starved to death, buried in shallow graves near the river in Hoeryong, North Hamgyong Province during the thawing of the winter freeze.<sup>255</sup>

While available evidence may be limited, such reports confirm the presence of mass graves in North Korea that likely resulted from the prevalence of acute food insecurity killing a significant number of people in a short time period.

### Declining Female Fertility Rates

Declining female fertility rates as an indicator of famine traditionally refers to women's physiological inability to conceive due to the effects of severe malnutrition and famine-related diseases. In the case of North Korea, the lack of disaggregated in-country data makes it impossible to determine whether women are conceiving fewer children due to malnutrition, other health reasons, or simply personal choice. Nevertheless, reports suggest that declining female fertility is likely influenced by widespread poverty and food insecurity, as women become more hesitant to have children knowing they do not have enough food to feed them. With no other choice but to use this limited available data, this section slightly modifies the traditional famine indicator to infer how women's declining preference to have children may be impacted by the presence of acute food insecurity.

As is the case across East Asia, North Korea's female fertility rate has steadily declined over the past several years. According to the 2023 UNFPA State of the World Population report, North Korea's fertility rate in 2022 was 1.8, a decline from its 2021 rate of 1.9 and far below the global average of 2.4.<sup>256</sup> The fact that women are citing economic and food security concerns as the main reasons deterring them from having children indicates that declining fertility is not simply a personal choice. Rather, it is likely an indicator of acute food insecurity. Border closures and market crackdowns during COVID-19 seemed to worsen matters, creating an economic crisis and severe food insecurity that has further discouraged women from wanting children. Young people who, only a few years ago, had expressed wanting to have one child now say they no

<sup>252</sup> Soo-Jung Lee, "Crematorium Shortage Prolonging Funerals as Death Tolls Rise," *Korea JoongAng Daily*, January 2, 2024. <https://koreajoongangdaily.joins.com/news/2024-01-02/national/socialAffairs/Crematorium-shortage-prolonging-funerals-as-death-tolls-rise/1949096>

<sup>253</sup> Gyu Ahn Chang, "North Koreans Secretly Bury Ancestors in Unmarked Graves to Avoid Funeral Costs," *Radio Free Asia*, July 26, 2022. [https://www.rfa.org/english/news/korea/unmarked\\_graves-07262022192238.html](https://www.rfa.org/english/news/korea/unmarked_graves-07262022192238.html)

<sup>254</sup> Ibid.

<sup>255</sup> "Increase in Wandering Homeless People throughout North Korea...poverty-Stricken Elderly People and Children Forced out into the Streets, with Some Even dying...The Authorities Order Thorough Measures to Be Taken" *Rimjin Gang*, *Asia Press*, April 25, 2023. <https://www.asiapress.org/rimjin-gang/2023/04/society-economy/homeless/>

<sup>256</sup> Jiro Ishimaru, "Investigation. Why aren't North Korea's women having babies anymore?" *Asiapress*, April 12, 2024. <https://www.asiapress.org/rimjin-gang/2024/04/recommendations/nobaby3/>



longer want to have any children.<sup>257</sup> North Korea's rapidly aging population, coupled with its increasing starvation-related fatality rate, thus poses a major national security issue that threatens the country's long-term demographic stability.

Kim Jong Un first publicly acknowledged this issue in December 2023 while delivering opening remarks at the Fifth National Conference of Mothers held in Pyongyang.<sup>258</sup> The government has taken measures to try and incentivize women to have more children, including exempting mothers of three or more children from forced mobilization<sup>259</sup> and giving them cash gifts and extra food rations on Mother's Day.<sup>260</sup> Kim Jong Un has also called for new childcare policies and the improvement of dairy processing technology following the recent order that government organizations and enterprises provide dairy products and processed dairy products at state-set prices to children under the age of five once a week.<sup>261</sup> The fact that Kim himself has acknowledged and addressed this issue using food rations conveys his awareness that declining female fertility is largely influenced by persisting food insecurity, creating a dire situation that will have grave consequences for North Korea's future stability.

The government's attempts to encourage births have thus far largely failed. According to *Daily NK* interviews with women in the cities of Hyesan, Hoeryong, and Sinuiju, women's decision to forgo marriage and children is predominantly influenced by seeing "parents struggling to feed their children and those who are too ashamed of their children's undernourished state to take them out in public."<sup>262</sup> Neighborhood watch units in all three cities reported marked decreases in marriage and childbirth.<sup>263</sup> One woman was quoted saying, "I can't escape the cycle of poverty no matter what I do, and it's hard enough just keeping myself fed. So I don't even dare to think about getting married or having children."<sup>264</sup>

Additionally, reports of severe malnutrition among women suggest that North Korean women may be physically unable to become pregnant due to severe malnutrition. One report from Pyongyang revealed that several women suffering from severe malnutrition collapsed and were hospitalized after being mobilized for military parade training.<sup>265</sup> Another report revealed that at least 35 female prisoners died from malnutrition because their relatives could not visit them to

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<sup>257</sup> Chae eun Lee, "Three N. Koreans Help Explain Their Country's Declining Birth Rate," *Daily NK*, December 22, 2023.

<https://www.dailynk.com/english/three-n-koreans-help-explain-their-countrys-declining-birth-rate/>

<sup>258</sup> Ibid.

<sup>259</sup> Jeong Yon Park, "North Korean Women Say No to Motherhood Due to Economic Difficulties," *Radio Free Asia*, June 6, 2021.

<https://www.rfa.org/english/news/korea/children-06222021174416.html>

<sup>260</sup> Hyemin Son, "North Korea Gives Extra Food and Cash on Mother's Day to Encourage Births," *Radio Free Asia*, November 16, 2020.

<https://www.rfa.org/english/news/korea/mothers-day-11162020182034.html>

<sup>261</sup> Dong Hui Mun, "North Korea's Efforts to Raise Birth Rate Seem to Be Failing to Address Root Causes," *Daily NK*, October 18, 2021.

<https://www.dailynk.com/english/north-korea-efforts-raise-birth-rate-seem-failing-address-root-causes/#:~:text=%E2%80%9CThe%20party%20isn't%20getting,impact%20on%20the%20birth%20rate.>

<sup>262</sup> Chae eun Lee, "Three N. Koreans Help Explain Their Country's Declining Birth Rate," *Daily NK*, December 22, 2023.

<https://www.dailynk.com/english/three-n-koreans-help-explain-their-countrys-declining-birth-rate/>

<sup>263</sup> Ibid.

<sup>264</sup> Ibid.

<sup>265</sup> Seo-yeong Jeong, "Pyongyangites Preparing for Military Parade Collapse Due to Exhaustion, Malnutrition," *Daily NK*, February 10, 2023.

<https://www.dailynk.com/english/pyongyangites-preparing-military-parade-collapse-exhaustion-malnutrition/>



deliver food due to COVID-19 restrictions.<sup>266</sup> Such reports confirm that acute food insecurity is discouraging, and potentially even physically preventing, women from becoming pregnant.

The fact that women are citing economic and food security concerns as the main reasons deterring them from having children indicates that declining fertility is not simply a personal choice. Rather, it is likely an indicator of acute food insecurity.

## **Section 4: Economics and Agricultural Production**

### **Section 4.1: Baseline Economic Status and Vulnerability**

The Democratic People's Republic of Korea (DPRK) has always existed in a state of economic isolation. The combination of 2017/2018 UNSC sanctions and domestic policies of border closure and limited domestic travel, has furthered that isolation and left the majority of DPRK citizens vulnerable to extreme food shortages, including starvation conditions. The following section establishes the economic status and vulnerability of the DPRK since 2018 and compares current conditions to those during the 1990s and the Arduous March.

The following analysis of the DPRK will establish and explore its economic baseline by comprehensively examining various parameters. First, focusing on the Gross National Income (GNI) per capita will provide insights into the country's overall economic output and the standard of living of its citizens. Income distribution will shed light on the level of inequality within the DPRK. Considering domestic prices, foreign exchange reserves, and government debt will help gauge the country's macroeconomic stability and ability to weather external shocks. Assessing trade balances and agricultural productivity will provide an understanding of the nation's dependence on imports and the resilience of its agricultural sector. Additionally, analyzing food security indicators, social safety nets, infrastructure, climate conditions, and market access will offer a comprehensive view of the DPRK's economic context and vulnerabilities.

Due to the inherent challenges posed by the lack of reliable quantitative data on economic indicators for the DPRK. One of the primary reasons for this reliance is the opaque nature of reporting within the DPRK. The government tightly controls information, including economic data and official statistics, and often lacks transparency or credibility by international standards. Moreover, limited access for international organizations hinders the collection of comprehensive and verifiable data. The DPRK's status as a sanctioned and isolated nation further complicates data collection efforts, as smuggling, unreported investments, and unaccounted financial transactions impede economic analysis. In this context, this analysis draws upon a combination of available information sources, including satellite imagery, anecdotal evidence, and expert assessments, to form a nuanced understanding of the DPRK's economic landscape.

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<sup>266</sup> Hyemin Son, "At Least 35 North Korean Prisoners Are Said to Have Starved to Death in July," *Radio Free Asia*, August 22, 2022. [https://www.rfa.org/english/news/korea/prison\\_deaths-08222022184150.html](https://www.rfa.org/english/news/korea/prison_deaths-08222022184150.html)

## Economic Output in Isolation

The GNI per capita suggests that while the DPRK has experienced economic stressors, its economy has not contracted in the same catastrophic manner as during the Arduous March, although it exhibits signs of strain. The true impact of the border closure and ongoing sanctions may be more substantial than what is reflected in the official GNI per capita figures, pointing to a potential undercurrent of economic vulnerability. GNI trends help to understand the DPRK's economic status and gauge its vulnerability to internal and external shocks. The data for the following graph, which details the Democratic People's Republic of Korea's (DPRK) per capita Gross National Income (GNI) in current prices from 1990 to 2022, was sourced from the Bank of Korea.<sup>267</sup> This data provides a longitudinal view of the country's economic status.

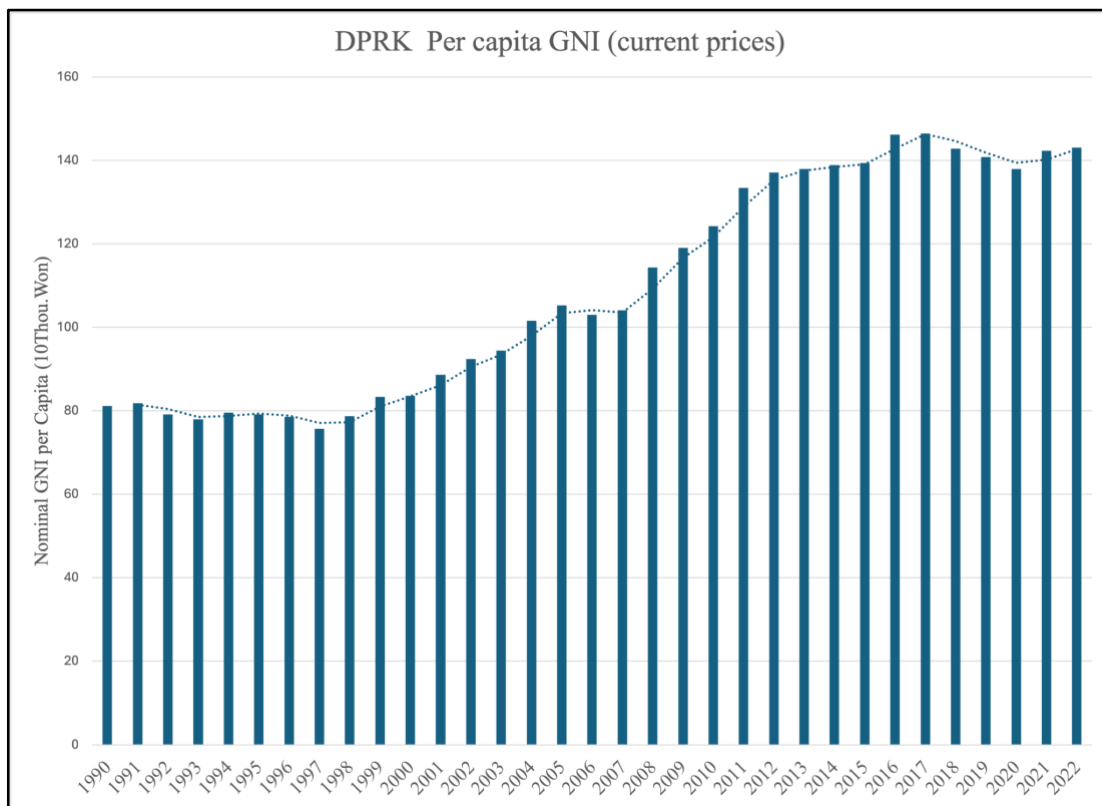


Figure 1

From the early to mid-1990s, the GNI per capita remained relatively flat, and a discernible dip occurred during the years of the Arduous March (1994-1998), reflecting the severe economic and humanitarian crisis of that period. This downturn can be attributed to a combination of natural disasters, economic mismanagement, and the collapse of the Soviet Union, which led to a significant drop in the already low DPRK's GNI per capita, indicating extreme economic vulnerability. Post-Arduous March, the graph shows a gradual and consistent recovery in GNI per capita until around 2013, suggesting that the country partially recovered from its economic lows of the 1990s. This recovery can be attributed to the migration pattern of individuals to China and returning with incomes due to the permeable border during the 1990s.

<sup>267</sup> Bank of Korea. <https://www.bok.or.kr/eng/search/search/main.do?menuNo=400493&query=North%20Korea>.

The 2016/2017 period is marked by the imposition of additional United Nations Security Council (UNSC) sanctions aimed at curtailing the DPRK's nuclear program. These sanctions targeted vital exports such as coal, textiles, and seafood and reduced the import of oil and other essential goods.<sup>268</sup> With the implementation of sanctions by the Chinese in 2018/2019, the GNI per capita begins to decline for the first time since the Arduous March. This suggests that sanctions may have begun to bite, affecting economic growth, but not to the extent of causing a downturn as acute as during the Arduous March.

In January 2020, the DPRK's border closure in response to the COVID-19 pandemic effectively halted most of its international trade. The 2020 GNI per Capita shows a significant drop, greater than that of the Arduous March; however, the overall GNI per capita exists at a higher baseline. The graph indicates continued growth in GNI per capita beyond this point, albeit with a less pronounced slope. This recovery is attributed to the policy of Juche in which domestic industries begin to transition to serving domestic markets and demand as well as a transition to non-sanctioned exports. While likely significant, the economic impact of the border closure may not be fully reflected in official GNI figures. Moreover, these numbers do not account for changes in purchasing power, the informal economy, or the significant trade that may bypass official channels.

Breaking down the DPRK's economy by industry, using Bank of Korea data, illustrates the evolution of the domestic economy.<sup>269</sup> The following graph details shifts within critical sectors of the economy: agriculture, heavy and light manufacturing, and a broad services sector that encompasses trade, food services, and communications, as well as government services, including military expenditures.<sup>270</sup>

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<sup>268</sup> Kelsey Davenport, "UN Security Council Resolutions on North Korea," *Arms Control Association*, January 2022. <https://www.armscontrol.org/factsheets/un-security-council-resolutions-north-korea>

<sup>269</sup> Bank of Korea. <https://www.bok.or.kr/eng/search/search/main.do?menuNo=400493&query=North%20Korea>.

<sup>270</sup> The DPRK's industry structure, economic size, and GNI generated by the Bank of Korea are estimated based on South Korea's prices and value-added ratios, and thus have limited comparability to other countries.

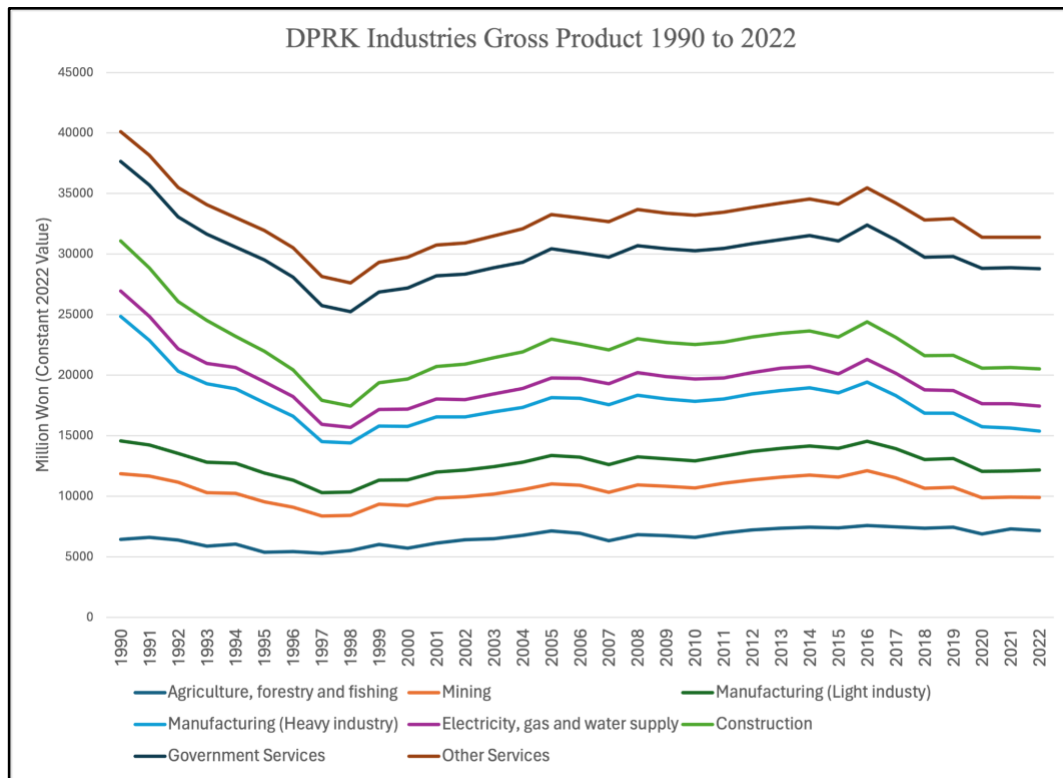


Figure 2

The DPRK's gross product by industry from 1990 to 2022 provides a longitudinal analysis of the nation's economic structure, revealing the impact of historical events such as the Arduous March, international sanctions, and the COVID-19 border closures.

During the 1990s, the DPRK faced significant economic challenges, most notably during the Arduous March, reflected by sharp declines in industrial output. Heavy industry, a backbone of the DPRK's economy that relies on international trade and support, particularly suffered during the post-Soviet era as it lost crucial support from the USSR. Moving into the 2000s, there was a recovery, particularly in light industry and services. Including sub-sectors like wholesale & retail trade and accommodation & food services within 'other services' indicates a gradual shift towards a more internally driven economy, indicative of an adaptation to the more market-oriented activities that emerged as the state's distribution system weakened.

The plateau or decline of several industries post-2016 corresponds with the tightening of UNSC sanctions, which would have directly affected the DPRK's export capabilities, particularly in the mining sector. The sanctions' intent to curb DPRK's nuclear ambitions by targeting its export income inherently impacts these industries. Government services, including military spending, show a steady increase. This is consistent with the DPRK's prioritization of military capabilities, often called the 'Military-First' policy, which underscores the state's strategic focus despite economic challenges.<sup>271</sup> The growth in this sector reflects increased military spending and a

<sup>271</sup> Dae Sook Suh, "Military-First Politics of King Jong-II," *Asian Perspective*, No. 3, Vol. 26, 2002, <https://www.jstor.org/stable/42704378>

broadener inclusion of state activities under this banner as the government seeks to maintain control in the face of sanctions.

The resilience of the 'other services' sector during the sanctions and border closure suggests a pivot towards domestic resilience, which coincides with the refined domestic policy of Juche in 2019.<sup>272</sup> The redefined version of Juche is discussed in greater detail in the [politics section](#). The sub-sectors within this category, such as trade, food services, and communications, are essential for everyday life and indicate that despite external pressures, the citizens of the DPRK have managed to sustain a certain level of domestic economic activity.

### **Unequal Standard of Living**

Quantifying the standard of living across the DPRK remains a challenge given the lack of accurate and quantifiable information. A study by Cuaresma et al. using night-time light intensity helps to estimate absolute poverty rates and the distribution of wealth and economic activity across the DPRK.<sup>273</sup> By analyzing the median yearly night-time luminosity values for North Korean provinces from 2012 to 2018, insights into the country's economic vulnerability can be deduced, especially in the context of the United Nations Security Council (UNSC) sanctions and the January 2020 border closure.

From the study by Cuaresca et al., the decline in light emissions from 2012 to 2016, particularly noticeable in some parts of Pyongyang and smaller cities, coincides with the period when international sanctions ramped up, suggesting a direct impact on the economic vitality of these regions. The recovery of luminosity from 2016 to 2018 may reflect a slight economic recovery or adaptation to the sanctions. The border closure in January 2020, which is not covered in the dataset, would likely have caused a significant shock to the DPRK's economy by abruptly halting most international trade. While the increase in night-time luminosity up to 2018 could be interpreted as a sign of economic resilience, the lack of data post-2018 leaves us without a direct measure of the impact of the border closure. In general, light emissions from North Korea remain predominantly in Pyongyang with little light observed in other major cities. Throughout the remainder of the country, rural as well as urban areas, no light emissions are observed, pointing to poverty and significant wealth/income inequality.

Cuaresca et al. found that the luminosity-based GDP per capita estimate for the DPRK in 2018 is approximately \$790 (2011 PPP-adjusted), indicating an extremely low level of income that ranks among the lowest in the world. Given this low economic baseline, the additional economic isolation caused by the border closure likely has severe implications for the livelihoods of North Koreans, potentially increasing poverty rates and economic instability. Thus, the combination of the total GDP per capita in addition to the distribution of observed light emission indicates the majority of North Koreans experience extreme poverty. The evidence of inequality is supported by the estimates of the country's Gini Coefficient.

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<sup>272</sup> Foster Klug, "Juche Rules North Korean Propaganda, but What Does It Mean?," *AP News*, September 30, 2019. <https://apnews.com/general-news-d63d00ce9de042dc88b9df2c40be53ee>

<sup>273</sup> Jesús Crespo Cuaresma et al., "What Do We Know about Poverty in North Korea?," *Palgrave Communications*, March 17, 2020. <https://www.nature.com/articles/s41599-020-0417-4>

The DPRK has exhibited extremely high levels of income inequality, with estimated Gini coefficients (0.7) rivaling those of the most unequal countries in the world.<sup>274</sup> This supports light emission evidence that the economic hardship brought on by sanctions and border closures is unevenly distributed. The disparities in living standards and access to essentials are pronounced, with a stark dichotomy between the living conditions in Pyongyang and those in the countryside.

Reports from *Radio Free Asia*, and Rimjin-gang highlight the geographical and social stratification within the country, pointing out the luxuries enjoyed by those in Pyongyang in stark contrast to the struggles of those in rural areas.<sup>275</sup> Reporting underscores the clear divide between the privileged classes in the capital and the rest of the population, who often resort to extreme measures for survival, such as risking illegal travel for work or living as servants to the elite.

The widening wealth gap mentioned in the *Radio Free Asia* report also reflects the creation of a new type of serfdom, where the majority are left to fend for themselves in a flourishing black-market economy.<sup>276</sup> At the same time, the privileged few enjoy the fruits of the informal economy's labor. This gap has grown despite increasing sanctions and trade restrictions. The disparities highlighted in the 2024 report by the DailyNK suggest that economic conditions have not improved, particularly for the low-income population, who are increasingly marginalized and struggling to afford even basic holiday meals.<sup>277</sup> This contrasts sharply with the relative luxury of the well-off, who continue to enjoy limited restaurant dining and other rare luxuries.<sup>278</sup>

These reports collectively paint a picture of a country where economic vulnerability is significantly influenced by a person's location, occupation, and social standing. While some have been able to use the shrinking informal economy to their advantage, the majority are facing a deepening crisis, exacerbated by international sanctions and internal policies prioritizing military and government spending over the populace's well-being. The sanctions and border closures have not only limited the flow of goods but also intensified pre-existing inequalities, leaving the most vulnerable groups—primarily the rural poor and urban low-income earners—increasingly desperate and economically insecure.

### Economic Impact of Trade Restrictions

The 2016/2017 sanctions and the 2020 border closure have had a sweeping impact on the DPRK's domestic markets, government debt, and foreign currency reserves. Contributing factors include informal markets, manufacturing industries' dependency on imports, historical food underproduction, agricultural import needs, and the Juche policy of self-reliance imposed by the central government.

<sup>274</sup> Marcus Noland, "The Distribution of Income in North Korea," *Peterson Institute for International Economics*, February 19, 2013. [https://www.piie.com/experts/senior-research-staff/marcus-noland?gad\\_source=1&gad\\_campaignid=1530686336&gbraid=0AAAAADHO67UlwYjLqbnV4sGz5TakhGHF&gclid=Cj0KCOjw0qTCBhCmARIsAAj8C4Zevc3KM0iPa88Alr8MPF8ksuELx75cR6iHRgFVouOz3PdMxP6c5MgaAiAEEALw\\_wcB](https://www.piie.com/experts/senior-research-staff/marcus-noland?gad_source=1&gad_campaignid=1530686336&gbraid=0AAAAADHO67UlwYjLqbnV4sGz5TakhGHF&gclid=Cj0KCOjw0qTCBhCmARIsAAj8C4Zevc3KM0iPa88Alr8MPF8ksuELx75cR6iHRgFVouOz3PdMxP6c5MgaAiAEEALw_wcB)

<sup>275</sup> Zachary Patterson, "Political, Social and Economic Inequality in North Korea," *North Korean Review*, No.1, Vol.13, Spring 2017, <https://www.jstor.org/stable/26396109>

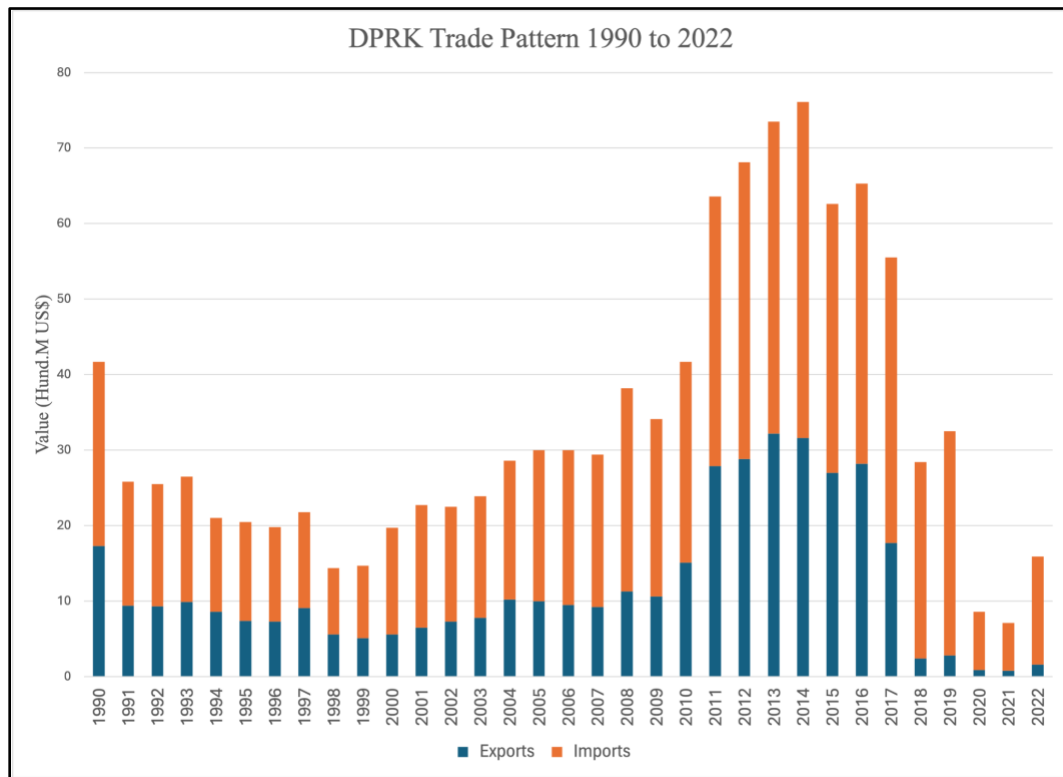
<sup>276</sup> Hyemin Son, "Widening Wealth Gap in North Korea Creates a New Type of 'Serfdom,'" *Radio Free Asia*, January 13, 2020. <https://www.rfa.org/english/news/korea/nk-wealth-gap-servants-01132020163738.html>

<sup>277</sup> Chae eun Lee, "New Year's Holiday Exposes Large Gaps between N. Korea's Rich and Poor," *Daily NK*, January 4, 2024. <https://www.dailynk.com/english/new-years-holiday-exposes-large-gaps-between-n-koreas-rich-and-poor/>

<sup>278</sup> Ibid.



The following graph illustrates that after 2017, the Democratic People's Republic of Korea's trade has experienced its most significant reduction since the 1990s.<sup>279</sup>



**Figure 3**

From the DPRK Trade Pattern graph, following the imposition of the 2016/2017 UNSC sanctions, there is a discernible contraction in trade. Exports decline significantly, implying a substantial blow to the country's revenue generation ability. While the sanctions are targeted, their impact is broad, reducing the availability of foreign currency due to the resulting trade deficit and thus restricting the ability of DPRK's citizens to import additional goods.

The 2020 border closure in the DPRK, a preventive measure against the spread of COVID-19, severely impacted the nation's economy by substantially reducing trade and cutting off essential flows of goods. This action almost near-completely halted the cross-border movement of people, formal and informal commercial trade, and humanitarian aid.<sup>280</sup> The immediate effects of the closure manifested in the dramatic decrease in the volume of imports, leading to acute shortages in the domestic market.<sup>281</sup>

The DPRK's trade patterns from 1990 to 2022 provide a striking visual contrast between the country's economic engagement during the 1990s, particularly the Arduous March, and the

<sup>279</sup> Bank of Korea. <https://www.bok.or.kr/eng/search/search/main.do?menuNo=400493&query=North%20Korea>.

<sup>280</sup> "North Korea," *Human Rights Watch*. <https://www.hrw.org/asia/north-korea>

<sup>281</sup> Benjamin Katzeff Silberstein, "Assessing North Korea's COVID-19 Containment and Kim Jong-Un's Political Challenges - Foreign Policy Research Institute." May 29, 2020. <https://www.fpri.org/article/2020/05/assessing-north-korea-covid19-containment/>.

period following the 2020 border closure. During the Arduous March of the mid-1990s, trade volumes shrank to extreme lows, reflecting the DPRK's economic isolation, the devastating impact of famine, and reduced assistance from traditional allies like the USSR. Exports and imports both showed a downward trend during this period, indicative of the nation's severe economic contraction and difficulties in acquiring foreign aid and engaging in international trade.

The 2020 situation marked a significant departure from the pre-2020 period, which witnessed a relatively higher level of trade activity despite earlier sanctions and restrictions. The Human Rights Watch reports illustrates how the DPRK had significantly increased its engagement with the global economy prior to the pandemic, making the sudden and nearly complete cessation of trade following the border closure a return to economic isolation reminiscent of the 1990s but with more abrupt impacts due to the country's increased reliance on global trade for essentials like food.<sup>282</sup> The intensified border control measures and the crackdown on informal trade significantly affected food security and the availability of products necessary for survival, thereby exacerbating the humanitarian crisis within the country. The situation is further aggravated by the government's enforcement of excessive quarantine measures and restrictions on freedom of movement, illustrating a severe response to the pandemic that has deepened the country's economic and social challenges.

In the DPRK, the reliance on informal markets for international and inter-provincial trade has been significantly impacted by sanctions and the 2020 border closure. These markets, which had flourished even amid official constraints, faced heightened volatility in the availability of goods due to these disruptions. The situation has been further compounded by the government's Juche policy of self-reliance, which limits provincial economies' access to central government support and compounds the challenges posed by international trade barriers.<sup>283</sup> The agricultural sector, critical for the nation's food security and economic stability, has been particularly affected. Reports from *Daily NK* highlight severe shortages of necessary agricultural supplies, including fertilizers and equipment, a situation exacerbated by the government's inability to provide these essential inputs.<sup>284</sup> This has led to a dire prediction of low harvests and highlighted the inefficacy of recent efforts to boost production, such as the distribution of tractors without fuel.<sup>285</sup>

Moreover, the informal markets, which had expanded significantly under the regime's initial tolerance, saw a dramatic decrease in size from over 23,000 square meters of new market space

<sup>282</sup> “‘A Sense of Terror Stronger than a Bullet: The Closing of North Korea 2018-2023,’” *Human Rights Watch*.

<https://www.hrw.org/report/2024/03/07/a-sense-of-terror-stronger-than-a-bullet-the-closing-of-north-korea-2018%E2%80%932023>

<sup>283</sup> Min Noh Jung, “North Korean Marketplaces Go from Bustling to Empty during Pandemic,” *Radio Free Asia*, June 20, 2022.

<https://www.rfa.org/english/news/korea/marketplace-06172022184139.html#:~:text=Satellite%20images%20show%20a%20dramatic%20decrease%20in%20market%20activity.&text=Commerce%20in%20North%20Korea's%20once,a%20bit%20more%20economic%20freedom.>

<sup>284</sup> Dong Hui Mun, “N. Korea Faces Shortage of Necessary Supplies for Agricultural Production,” *Daily NK*, February 14, 2024.

<https://www.dailynk.com/english/north-korea-faces-shortage-necessary-supplies-agricultural-production/#:~:text=Korea%20faces%20shortage%20of%20necessary%20supplies%20for%20agricultural%20production,-Failure%20to%20deliver&text=North%20Korea%20has%20again%20made,communities%2C%20Daily%20NK%20has%20learned.>

<sup>285</sup> Chae eun Lee, “N. Korean Farmers Show Mixed Reactions to Tractors Gifted by Kim Jong Un,” *Daily NK*, March 24, 2021.

<https://www.dailynk.com/english/north-korean-farmers-show-mixed-reactions-tractors-gifted-kim-jong-un/>

in 2019 to just 630 square meters nationwide by 2021, following the pandemic-induced border closure.<sup>286</sup>

This sharp reduction not only underscores the direct impact of trade suspensions but also illustrates the broader economic strains faced by provincial economies under the dual pressures of the Juche policy and external sanctions.

Historically, the DPRK has faced significant challenges in meeting its internal food production needs, heavily relying on imports to fill the gap. The imposition of border closures has critically hampered the ability of DPRK citizens to import food, both through official channels and via smuggling, exacerbating the already critical issue of food insecurity within the country. This dire situation is further complicated by the nation's reliance on imported agricultural inputs such as gasoline, fertilizers, and farm tools, which are essential for sustaining even the minimal levels of domestic food production currently witnessed. Reports from *Daily NK* in 2024 reveal the severity of the situation, with agricultural supply agencies, such as the one in Pyongsong, being described as empty and a "paradise for rats," indicating a profound shortage of necessary supplies for agricultural production.<sup>287</sup>

By June 2020, many collective farms unaffiliated with state agencies were already facing shortages of crucial agricultural supplies, exacerbating predictions of disastrous harvests due to these deficiencies.<sup>288</sup> The pandemic has intensified these shortages, making the repair and servicing of farm machinery increasingly difficult, as parts thefts became more common amidst the economic troubles following the border closure.<sup>289</sup> By July 2021, it was acknowledged that agricultural supplies, including pesticides and fertilizers, had dwindled to 80% of what was available in the previous year, signaling a significant downturn in the availability of essential agricultural inputs.<sup>290</sup> This collection of factors—ranging from the acute shortage of agricultural inputs to the logistical and economic complications induced by the COVID-19 pandemic and the border closures—has drastically impacted the DPRK's food security, highlighting the critical interdependence between the nation's agricultural productivity and its access to international markets.

The DPRK's financial predicament has been notably exacerbated by a growing trade deficit, primarily due to international sanctions and the impact of the COVID-19 pandemic. This situation has heightened the risk of government insolvency as it struggles to finance deficits

<sup>286</sup> Min Noh Jung, "North Korean Marketplaces Go from Bustling to Empty during Pandemic," *Radio Free Asia*, June 20, 2022. <https://www.rfa.org/english/news/korea/marketplace-06172022184139.html#:~:text=Satellite%20images%20show%20a%20dramatic%20decrease%20in%20market%20activity.&text=Commerce%20in%20North%20Korea's%20once,a%20bit%20more%20economic%20freedom.>

<sup>287</sup> Dong Hui Mun, "N. Korea Faces Shortage of Necessary Supplies for Agricultural Production," *Daily NK*, February 14, 2024. <https://www.dailynk.com/english/north-korea-faces-shortage-necessary-supplies-agricultural-production/#:~:text=Korea%20faces%20shortage%20of%20necessary%20supplies%20for%20agricultural%20production,-Failure%20to%20deliver&text=North%20Korea%20has%20again%20made,communities%2C%20Daily%20NK%20has%20learned.>

<sup>288</sup> Seulkee Jang, "N. Korea's Farms Still Face Agricultural Supply Shortages," *Daily NK*, June 2, 2020. <https://www.dailynk.com/english/north-korea-farms-still-face-agricultural-supply-shortages/>

<sup>289</sup> Dong Hui Mun, "Thefts of Farm Machinery Parts on the Rise Ahead of Spring Farming Season," *Daily NK*, February 20, 2023. <https://www.dailynk.com/english/thefts-farm-machinery-parts-rise-ahead-spring-farming-season/>

<sup>290</sup> Seulkee Jang, "Many North Korean Farms Still Need to Be Properly Weeded," *Daily NK*, July 28, 2021. <https://www.dailynk.com/english/many-north-korean-farms-still-need-properly-weeded/#:~:text=Following%20North%20Korea's%20acknowledgement%20to,of%20rice%20fields%20this%20year.>

without the usual inflow from foreign trade. The decision to close foreign diplomatic missions in countries like Angola, Hong Kong, Nepal, Spain, Uganda, the Democratic Republic of Congo, Bangladesh, Senegal, and Guinea in November 2023 is a stark indicator of financial distress, likely stemming from the compounded effects of international sanctions and the pandemic's aftermath.<sup>291</sup>

To mitigate the shortfall in revenue from trade, the government has resorted to internal measures such as collecting "patriotic rice" donations and imposing socially enforced quotas. Despite widespread food shortages, North Korean citizens are compelled to contribute additional resources for military and official use under the threat of severe penalties for non-compliance, illustrating the extreme measures taken to sustain government functions and priorities.<sup>292</sup> Furthermore, the imposition of unrealistic agricultural quotas and the scarcity of essential farming equipment, as seen with the lack of functional tractors, exacerbates the strain on the populace, whose capacity to fulfill these demands diminishes.<sup>293</sup>

The reliance on such exploitative systems of domestic revenue generation underlines the broader economic challenges posed by the Juche policy of self-reliance. As provincial bodies are pushed towards self-sufficiency, the central government finds its ability to redistribute resources, including those obtained through patriotic donations and quotas, severely constrained. This situation is made more difficult as citizens, facing reduced access to foreign currency and economic opportunities, struggle to meet the government's contribution expectations, further straining an already precarious economic balance.

#### **Section 4.2: Market Prices and Wages**

A complex interplay exists between market prices and food security within the Democratic People's Republic of Korea. Commodities such as rice, corn, diesel, and gasoline are barometers for the country's economic stability and the well-being of its citizens. Scrutinizing these market fluctuations, particularly price spikes against the backdrop of significant political and health crises, such as the COVID-19 pandemic and United Nations Security Council sanctions, provides insights into the broader repercussions on food availability, purchasing power, and ultimately, food security in the DPRK.

Focusing on the agricultural sector's staples of rice and corn, the DPRK Rice Prices graph illustrates the impact of the UNSC sanctions, the 2020 border closure, and the impact of the country's agricultural cycle.<sup>294</sup>

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<sup>291</sup> Emma Whitmyer, "North Korean Embassy Closures Point to Struggle and Starvation," *East Asia Forum*, December 8, 2023. <https://eastasiaforum.org/2023/12/08/north-korean-embassy-closures-point-to-struggle-and-starvation/>

<sup>292</sup> Seulkee Jang, "N. Korean Rice Prices Skyrocket, Possibly Fueled by 'Patriotic Rice' Campaign," *Daily NK*, February 23, 2023. <https://www.dailynk.com/english/north-korean-rice-prices-skyrocket-possibly-fueled-by-patriotic-rice-campaign/>

<sup>293</sup> Jeong Yon Park, "North Korean Agricultural Quotas Unrealistic Due to Equipment Shortfalls," *Daily NK English*, April 27, 2021. <https://www.rfa.org/english/news/korea/farm-04272021221204.html>

<sup>294</sup> Daily NK, "Rice Prices (KPW / 1Kg)." *Daily NK English*, <https://www.dailynk.com/english/north-korea-market-trends-rice/>

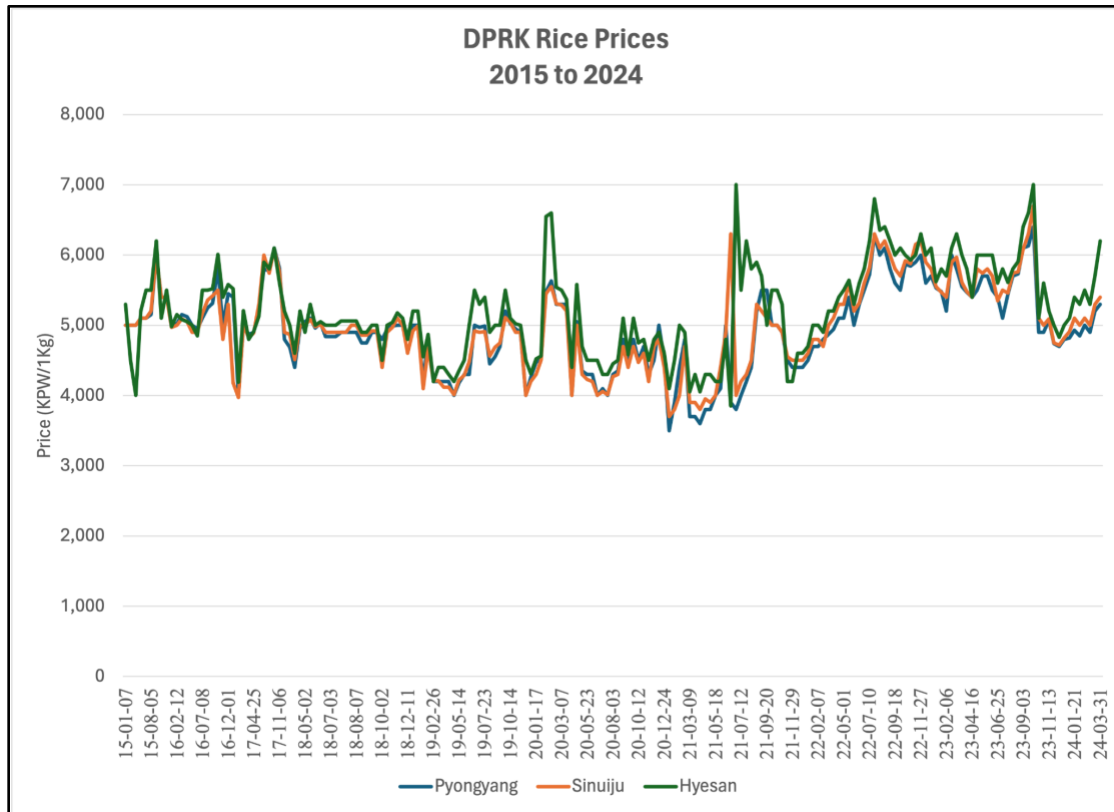


Figure 4

The DPRK Rice Prices graph illustrates the price fluctuations experienced across Pyongyang; Sinuiju, North Pyongan Province; and Hyesan, Ryanggang Province . Notably, the rice price spikes visible on the graph indicate periods of higher food security in the DPRK. The January 2020 spike aligns with the DPRK closing its borders in response to the COVID-19 pandemic, which caused immediate disruptions in the supply chain for imports, including food, leading to a short-term sharp price increase. The increase in prices reduced citizens' purchasing power and exacerbated food insecurity during the time of the year with generally greater food availability.<sup>295</sup>

The spikes observed in May-August 2021, May-September 2022, and June-September 2023 correspond to the growing season of the DPRK's main crops, which is identified as the yearly "lean period" before the harvest begins.<sup>296</sup> During these months, domestic rice stocks are typically lower as the previous year's harvest dwindles and the new crop is not yet ready, which naturally leads to higher prices. Furthermore, the graph indicates prices do not return to pre-spike levels after the harvest each year, indicating that the food security situation is deteriorating, with

<sup>295</sup> Mario Zappacosta et al., "Democratic People's Republic of Korea FAO/WFP Joint Rapid Food Security Assessment," *Food and Agriculture Organization of the United Nations and World Food Programme*, May 2019. <https://openknowledge.fao.org/server/api/core/bitstreams/b08bed4d-75d3-4dfe-8ef1-ce806bc11229/content>

<sup>296</sup> Benjamin Katzeff Silberstein, "Corn Prices Continue to Rise in North Korea in Early March, Suggesting Tightening Food Supply," *North Korean Economic Watch*, March 10, 2023. <https://www.nkeconwatch.com/2023/03/10/corn-prices-continue-to-rise-in-north-korea-in-early-march-suggesting-tightening-food-supply/#:~:text=Korea%20opening%20up%3F%20%C2%BB%20prices%20continue%20to%20rise%20in%20North%20Korea,March%2C%20suggesting%20tightening%20food%20supply&text=A%20few%20updates%20on%20the,were%20last%20year%20this%20time.>

prices shifting higher over time. This pattern would suggest that supply is not meeting demand even with new harvests.

In June 2021, the economic conditions appeared to reach a state of panic as food prices soared and the value of foreign currency dropped.<sup>297</sup> Emergency food supplies provided by the state, amounting to only about 5 kilograms of corn per person, were not sufficient to stabilize the markets, reflecting the persistent instability and uncertainty over the future of food security. The economic uncertainties exacerbated by the COVID-19 pandemic in 2021 forced some street food vendors to adjust by raising prices and reducing portion sizes, directly impacting the accessibility and affordability of food for the general populace.<sup>298</sup>

By January 2022, state-run food shops were positioned to help stabilize grain prices, with Kim Jong Un emphasizing a "complete" solution to the nation's food problems.<sup>299</sup> Despite these efforts, a spike in the prices of staples such as rice and corn in July 2022 further strained the economic conditions for ordinary North Koreans.<sup>300</sup>

The intensification of crackdowns on food wholesalers and resellers in January 2023 aimed to ensure that rice was sold in state-run food shops rather than markets, reflecting the state's attempt to control food distribution and pricing within the country.<sup>301</sup> Nevertheless, continued high rice prices in February 2023, possibly fueled by a patriotic rice donation campaign, indicate a chronic supply shortage in the market.<sup>302</sup>

By January 2024, the price of rice in state-run grain stores mirrored that of high market prices, further evidencing the challenges of maintaining affordable food prices for the population. Additionally, the limited capacity of state stores to meet the needs of the populace—only about 70% according to one report—left many without any access to essential grains, with the quality of the limited state-store food also being called into question.<sup>303</sup>

The open-source reporting is further supported by the graph for DPRK market prices from 2018 to 2024, which illustrates the prices for rice and corn, two primary food staples.<sup>304</sup> Such as, in the

<sup>297</sup> Jiru Ishimaru, "The Deteriorating Plight of the People (3) Economy Reaches State of Panic," *Asiapress*, July 12, 2021.

[www.asiapress.org/rimjin-gang/2021/07/politics/cause-3/](https://www.asiapress.org/rimjin-gang/2021/07/politics/cause-3/)

<sup>298</sup> Chase eun Lee, "Some North Korean Street Vendors Raise Prices in Response to Economic Uncertainties," *Daily NK*, April 6, 2021.

<https://www.dailynk.com/english/some-north-korean-street-vendors-raise-prices-response-economic-uncertainties/#:~:text=Some%20North%20Korean%20street%20vendors%20raise%20prices%20in%20response%20to%20economic%20uncertainties,-Injogogibap%2C%20dububap%20and&text=Faced%20with%20economic%20uncertainties%20due,selling%2C%20Daily%20NK%20has%20learned.>

<sup>299</sup> Seulkee Jang, "State-Run Food Shops May Be Helping to Stabilize N. Korean Grain Prices," *Daily NK*, January 17, 2022.

<https://www.dailynk.com/english/state-run-food-shops-may-help-stabilize-north-korean-grain-prices/>

<sup>300</sup> Chase eun Lee, "Recent Spike in Rice and Corn Prices Make Things Even More Difficult for Ordinary N. Koreans," *Daily NK*, July 8,

2022. <https://www.dailynk.com/english/recent-spike-rice-corn-prices-make-things-even-more-difficult-ordinary-north-koreans/>

<sup>301</sup> Chae Eun Lee, "N. Korea Intensifies Crackdowns on Rice Wholesalers and Resellers," *Daily NK English* (blog), January 19, 2023,

<https://www.dailynk.com/english/north-korea-intensifies-crackdowns-rice-wholesalers-resellers/>

<sup>302</sup> Seulkee Jang, "N. Korean Rice Prices Skyrocket, Possibly Fueled by 'Patriotic Rice' Campaign," *Daily NK*, February 23, 2023.

<https://www.dailynk.com/english/north-korean-rice-prices-skyrocket-possibly-fueled-by-patriotic-rice-campaign/>

<sup>303</sup> Seulkee Jang, "Prices of Rice Sold in N. Korea's State-Run Food Shops Similar to Market Prices," *Daily NK*, January 12, 2024.

<https://www.dailynk.com/english/prices-rice-sold-north-korea-state-run-food-shops-similar-market-prices/>

<sup>304</sup> "Latest Market Price Index Inside N.Korea," *Asiapress*. <https://www.asiapress.org/rimjin-gang/north-k-korea-prices/>



previous graph of rice prices alone, corn and rice exhibit similar trends in price spikes after the January 2020 border closure and throughout the yearly lean periods between harvests. However, during the 2021 lean period corn prices spiked higher than rice prices. Corn, generally considered the less-preferred staple, spikes higher than rice, indicating a possible substitution effect in which DPRK citizens switched to the less expensive corn, altering demand dynamics between the two grains.<sup>305</sup> With the relative price of rice to corn being used as an indicator of household food distress, the 2021 rice-to-corn prices point to worsening food security.<sup>306</sup> As a result, increased nutritional deficiency given the lower caloric value of corn exacerbated 2021's lean period.<sup>307</sup>

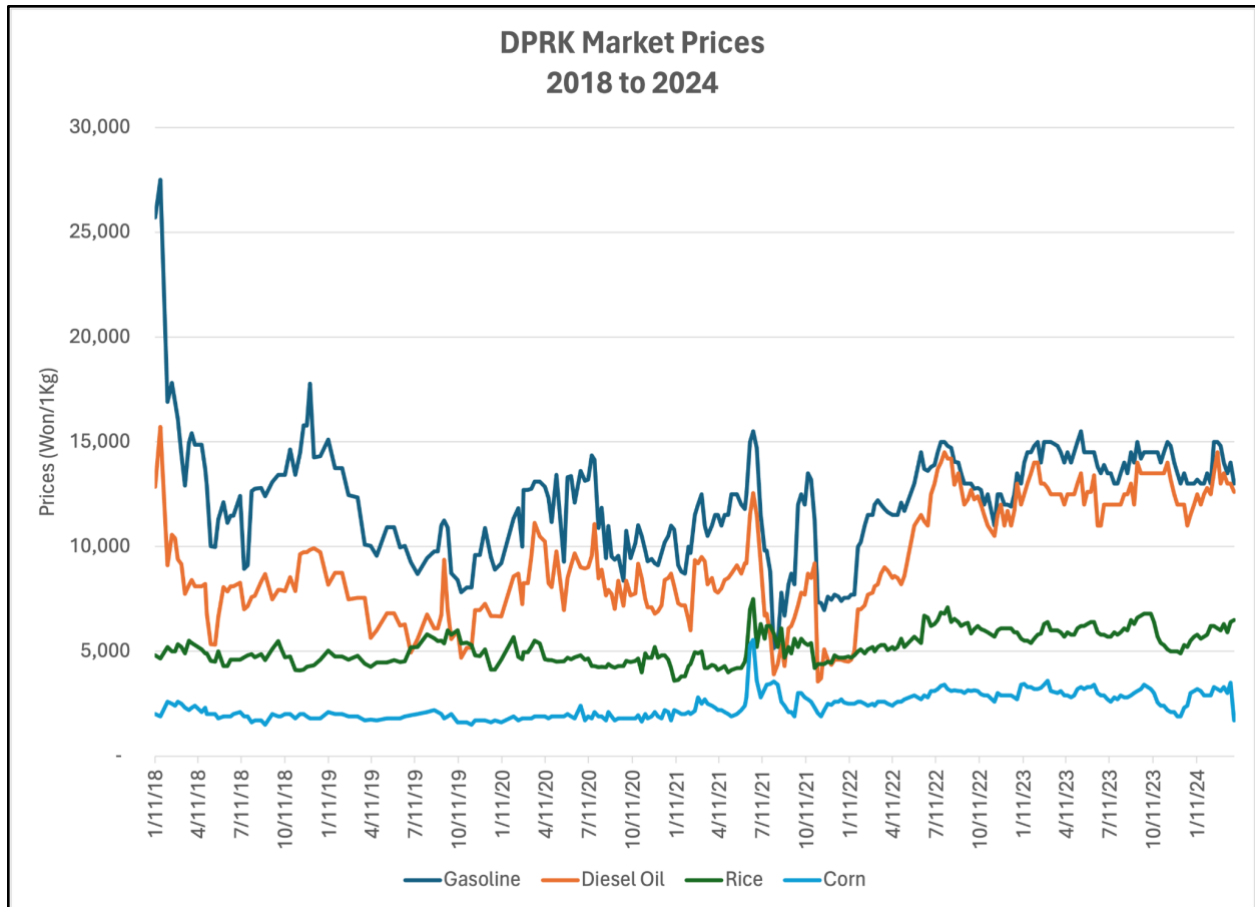


Figure 5

<sup>305</sup> Benjamin Katzeff Silberstein, "Corn Prices Continue to Rise in North Korea in Early March, Suggesting Tightening Food Supply," *North Korean Economic Watch*, March 10, 2023. <https://www.nkeconwatch.com/2023/03/10/corn-prices-continue-to-rise-in-north-korea-in-early-march-suggesting-tightening-food-supply/#:~:text=Korea%20opening%20up%3F%20%C2%BB-.Corn%20prices%20continue%20to%20rise%20in%20North%20Korea.March%2C%20suggesting%20tightening%20food%20supply&text=A%20few%20updates%20on%20the,were%20last%20year%20this%20time.>

<sup>306</sup> Lucas Rengifo-Keller, "Food Insecurity in North Korea Is at Its Worst Since the 1990s Famine," *38 North*, January 19, 2023. <https://www.38north.org/2023/01/food-insecurity-in-north-korea-is-at-its-worst-since-the-1990s-famine/>

<sup>307</sup> Naomi Fukagawa and Lewis Ziska, "Rice: Importance for Global Tradition," *Journal of Nutritional Science and Vitaminology*, October 2019. [https://www.researchgate.net/publication/336570767\\_Rice\\_Importance\\_for\\_Global\\_Nutrition](https://www.researchgate.net/publication/336570767_Rice_Importance_for_Global_Nutrition)

Examining the market prices for gasoline and diesel oil in the DPRK from 2018 to 2024, there were noticeable spikes in the prices of these fuels, which have several implications for food production and directly affect food security.<sup>308</sup>

Fuel is a critical input for agricultural production, particularly for the operation of tractors and other machinery. Diesel oil, which is generally used for such machinery, shows price spikes, particularly in the winter months between 2018 and 2019, coinciding with the implementation of UNSC sanctions and a markedly decreased sale of fuel to the DPRK from China.<sup>309</sup> These sanctions limited the DPRK's access to oil on the international market, causing prices to rise. Higher diesel prices during these periods raise the cost of food production for farmers, leading to decreased agricultural output for farmers unable to afford the necessary fuel for planting and harvesting, contributing to increased food insecurity.

Further price spikes in diesel occurred from October 2021 to January 2022 and then sustained high prices from April 2022 onwards. The October 2021 spike coincides with that year's harvest period as farmers sought fuel for their tractors. The sustained high prices from April 2022 onwards indicate a chronic fuel shortage and a significant inhibitor to agriculture productivity throughout the country.

Additional reports in April 2022 found crackdowns and seizures of private fuel sales by the government during the shortages, which further exemplifies the depth of the fuel crisis.<sup>310</sup> The government's seizure of privately held fuel illustrates the severity of shortages and the direct impact on the agricultural sector, with farmers facing a severe shortage of gasoline and diesel during critical farming periods. Moreover, the practice of diluting gasoline with naphtha, as a response to fuel scarcity, risks damaging agricultural machinery, thereby compounding the challenges the agricultural sector faces.<sup>311</sup>

Furthermore, the testimony from a North Korean farmer emphasizes the agricultural sector's fundamental issues beyond mechanization. The farmer's concerns regarding fuel underscore the fact that agricultural efficiency and productivity are linked to fuel availability. As the *Daily NK* reported from an interview with North Korean farmers, there is a sentiment that "one ox is better than ten people" without fuel and fertilizer, pointing to the inefficiency that plagues the agriculture sector.<sup>312</sup> Finally, the mixed reactions of farm workers to tractors reinforce the analysis. The presence of machinery alone does not equate to increased production in the absence of fuel. This scarcity turns what should be an asset—a tractor—into a liability, as

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<sup>308</sup> Fuel prices are extremely high in early 2018 in response to the implementation of the UNSC sanctions, with the following price drop falling to slightly higher than average prices.

<sup>309</sup> Benjamin Katzeff Silberstein, "China's Sanctions Enforcement and Fuel Prices in North Korea: What the Data Tells Us," *38 North*, February 2019. <https://www.38north.org/wp-content/uploads/pdf/38-North-SR-1902-BKS-China-NK-Fuel.pdf>

<sup>310</sup> Jieun Kim, "North Korea Cracks down on Private Fuel Sales during Shortage," *Radio Free Asia*, April 5, 2022. <https://www.rfa.org/english/news/korea/gas-04052022170522.html>

<sup>311</sup> So Young Kim and Hyemin Son, "North Koreans Turn Fuel Coupons into Cash as Gas Prices Soar," *Radio Free Asia*, March 16, 2022. <https://www.rfa.org/english/news/korea/gas-03162022175212.html>

<sup>312</sup> Dong Hui Mun, "One N. Korean Farmer's View of the State of His Country's Agricultural Sector," *Daily NK*, January 30, 2023. <https://www.dailynk.com/english/one-north-korean-farmer-view-state-country-agricultural-sector/>

expressed by the farm worker who feared the increased labor demands to "repay the Marshal's love" due to the non-availability of fuel.<sup>313</sup>

The link between fuel shortages and food security in the DPRK underscores the increased costs of food production, decreased agricultural output, and the exacerbation of food insecurity due to persistently high diesel prices. These conditions highlight a precarious situation where the agricultural sector's ability to increase production and achieve food security is critically hindered by market fuel availability, despite efforts at mechanization and government-provided machinery.

Focusing on wages, income generation in the DPRK is heavily reliant on market activities, with a reported 75% of income deriving from these sources according to the Center for Strategic and International Studies.<sup>314</sup> However, the pandemic restrictions have disrupted these market dynamics, as evidenced by the shift from bustling marketplaces to scenes of emptiness and stagnation.<sup>315</sup> Vendors face declining sales not due to a lack of demand for goods and food, but rather because of the diminished purchasing power of customers—a result of prolonged economic stagnation and intensified sanctions.<sup>316</sup> With the reduction of income and overall purchasing power, the food insecurity plaguing North Korea exhibits qualities of supply driven food insecurity as well as a demand driven.

According to multiple in-country source reports, income levels in the DPRK are under considerable strain. With the closing of borders to prevent the spread of COVID-19, traditional means of supplementing income, such as smuggling and trade, have been cut off. Consequently, the regime officials, previously reliant on bribes from such activities, have intensified demands for bribes from the populace, exacerbating the financial strain on citizens.<sup>317</sup> This increased demand for bribes, especially in the face of border closures aimed at preventing the spread of COVID-19, has placed additional financial pressure on individuals who rely on the informal economy for their livelihoods.

Amid increasing food prices, traders and vendors have had to adapt by selling smaller portions to accommodate the falling purchasing power among consumers.<sup>318</sup> The increased prices for fuel and the volatile value of the won have compounded these difficulties, with no reported real increase in income or wages to offset these challenges.<sup>319</sup> Even as speculators and hoarders might benefit from the price volatility, the farmers—among the poorest in North Korea—

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<sup>313</sup> Chae eun Lee, "N. Korean Farmers Show Mixed Reactions to Tractors Gifted by Kim Jong Un," *Daily NK*, March 24, 2021. <https://www.dailynk.com/english/north-korean-farmers-show-mixed-reactions-tractors-gifted-kim-jong-un/>

<sup>314</sup> Ibid.

<sup>315</sup> Yuna Ha, "International Sanctions Not a Concern for Some Market Vendors in North Korea," *Daily NK*, August 21, 2019. <https://www.dailynk.com/english/international-sanctions-not-a-concern-for-some-market-vendors-in-north-korea/>

<sup>316</sup> Ibid.

<sup>317</sup> Yuna Ha, "Sinuiju Officials Intensify Bribe Demands amid Wider Economic Malaise," *Daily NK*, October 29, 2020. <https://www.dailynk.com/english/sinuiju-officials-intensify-bribe-demands-amid-wider-economic-malaise/>

<sup>318</sup> Seulkee Jang, "How Are N. Korean Market Vendors Responding to Falling Purchasing Power among Consumers?," *Daily NK*, June 15, 2022. <https://www.dailynk.com/english/how-north-korean-market-vendors-are-responding-falling-purchasing-power-among-consumers/>

<sup>319</sup> William Brown, "Inflation and Money Confusion Accompanies Kim Jong Un's 'Tense Food' Remarks," *38 North*, June 21, 2021. <https://www.38north.org/2021/06/inflation-and-money-confusion-accompanies-kim-jong-uns-tense-food-remarks/>

continue to face hardships, as their incomes are tied to the unproductive collective farms and are now undercut by state-run food shops offering lower prices.<sup>320</sup>

As state-run food shops sell grains at lower prices, the incomes of farming households have significantly decreased, falling by 25% to 30% compared to previous years.<sup>321</sup> The government's control over grain sales following the harvest has forced farmers to sell yields traditionally kept for personal use, further diminishing their income.<sup>322</sup>

In the DPRK, wages and citizens' ability to afford food are significantly impacted by an informal tax system that manifests primarily through rampant bribery and so-called "non-tax burdens." Despite the official abolition of taxation in 1974, the imposition of these non-tax burdens and the culture of bribery act as de facto taxes on the populace, drawing away their financial resources and thereby reducing their capacity to secure food.<sup>323</sup>

The concept of "non-tax burdens," is another significant factor in reducing the disposable income of North Korean households. These burdens are often imposed as quotas, such as requiring households to contribute a set quantity of goods like scrap metal or to pay a cash price if the quota cannot be met. This system's regressive nature is highlighted by its disproportionate impact on households with limited means. Notably, the burden of meeting these quotas often falls on women, who are frequently the primary earners and are also tasked with managing the household's response to these financial demands.<sup>324</sup>

The government's decision to raise wages by more than 10 times in late 2023 was a response to the decreased cash income of residents; however, this wage hike has been met with skepticism given the increased wages are limited to cash cards usable at state-run stores. Furthermore, there are concerns that increased wages will not translate to increased purchasing power, as the state may siphon off these wages for military or other state projects.<sup>325</sup> The lack of income is a core issue, rather than solely a lack of food supply, encapsulates the economic dilemma in the DPRK. Restrictions on hiring and private enterprise exacerbate the situation, leaving vulnerable groups, including people with disabilities and the elderly, at significant risk of starvation.<sup>326</sup>

The strain these financial impositions place on the average North Korean household cannot be overstated. With the majority of income generated from market activities, and with market traders themselves struggling under reduced sales and the necessity of paying market fees, the

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<sup>320</sup> Seulkee Jang, "N. Korean Farming Households See Drop in Income Due to State-Run Food Shops," *Daily NK*, February 21, 2023. <https://www.dailynk.com/english/north-korean-farming-households-see-incomes-drop-due-state-run-food-shops/#:~:text=The%20incomes%20of%20North%20Korean,be%20found%20in%20local%20markets.>

<sup>321</sup> Ibid.

<sup>322</sup> Ibid.

<sup>323</sup> Rose Adams, "A Tax by Any Other Name: Understanding North Korea's 'Non-tax Burden System,'" *38 North*, January 8, 2024. <https://www.38north.org/2024/01/a-tax-by-any-other-name-understanding-north-koreas-non-tax-burden-system/>

<sup>324</sup> Ibid.

<sup>325</sup> "Government implements wage hike of more than 10 times (3) Wages are paid with cards as part of efforts to force people to buy food from the state," *Asiapress*, January 15, 2024. <https://www.asiapress.org/rimjin-gang/2024/01/society-economy/wage-increase-3/#:~:text=%EF%BC%9CInside%20N.-,Korea%EF%BC%9E%20Government%20implements%20>

<sup>326</sup> "North Korea," *Human Rights Watch*. <https://www.hrw.org/asia/north-korea>

capacity of individuals to afford even basic foodstuffs like rice and corn is compromised.<sup>327</sup> This is further evidenced by reports of increasing rice prices in Pyongyang markets, not due to a lack of supply but because of the falling purchasing power of consumers, forcing vendors to sell goods in smaller portions and at lower prices.<sup>328</sup> In total, evidence suggests that food prices are increasing not only due to a high demand but also reflect the population's decreased capacity to purchase these essentials, indicating a precarious food security situation driven by economic hardship rather than only supply issues.

### Section 4.3: Market Interferences: Consolidation of Food Distribution and Pandemic Restrictions

#### Market Restrictions and Interferences on Food Security

The onset of the 2020 border closure and subsequent domestic market restrictions in North Korea significantly affected market access and, by extension, food security, intersecting critically with the agricultural cycle, especially during the lean period from April to August.

Before the border closure, North Korea was experiencing a transformation in its market dynamics, with increased street-side vendors and small markets in rural areas. This shift towards marketization improved access to goods, even in remote agricultural towns, as reported in 2018.<sup>329</sup> However, the situation began to shift in 2019 with the hike in market fees and intensified crackdowns on so-called "grasshopper" merchants, indicating a tightening of state control over market activities.<sup>330</sup> Such measures restricted market operations and reduced small-scale vendors' livelihoods, which are crucial for the rural economy and food distribution.

In 2020, the border closure with China in late January led to rising food and essential goods prices, straining the already precarious food security situation.<sup>331</sup> The government's attempts to control prices amidst these challenges were largely ineffective, as vendors resorted to selling goods at higher prices when not under direct surveillance. Additionally, the 2020 ban on the private sale of recently harvested grains due to poor agricultural yields further complicated food distribution channels, indicating a severe disruption in the internal food supply chain.<sup>332</sup>

The impact of these measures on market access and food security was profound, particularly considering their timing in relation to the agricultural cycle. The restrictions occurred during and around the lean period when food stocks were typically at their lowest, exacerbating food scarcity and increasing the population's vulnerability to food insecurity.

<sup>327</sup> Yuna Ha, "International Sanctions Not a Concern for Some Market Vendors in North Korea," *Daily NK*, August 21, 2019. <https://www.dailynk.com/english/international-sanctions-not-a-concern-for-some-market-vendors-in-north-korea/>

<sup>328</sup> Seulkee Jang, "Pyongyang's Economy Faces Possible Stagnation," *Daily NK*, April 25, 2019. <https://www.dailynk.com/english/pyongyangs-economy-faces-possible-stagnation/>

<sup>329</sup> Mi Jin Kang, "Street Markets Pop up in North Korea's Rural Areas," *Daily NK*, June 19, 2018. <https://www.dailynk.com/english/photos-street-markets-pop-up-in-north-koreas-rural-areas/>

<sup>330</sup> Jo Hyon, "Probing the Effects of North Korea's Skyrocketing Market Fees," *Daily NK*, December 17, 2019. [https://www.dailynk.com/english/probing-effects-north-korea-skyrocketing-market-fees/#:~:text=A%20recent%20hike%20in%20taxes,\(approximately%20USD%2038%20cents\).](https://www.dailynk.com/english/probing-effects-north-korea-skyrocketing-market-fees/#:~:text=A%20recent%20hike%20in%20taxes,(approximately%20USD%2038%20cents).)

<sup>331</sup> Mun Dong Hui, "N. Korea Orders Major Organizations to Fend for Themselves," *Daily NK English*, February 27, 2020. <https://www.dailynk.com/english/north-korea-orders-major-organizations-fend-themselves/>

<sup>332</sup> Seo-Yeong Jeong, "N. Korea Slaps Ban on Private Sale of Recently Harvested Grains," *Daily NK*, January 2, 2020. <https://www.dailynk.com/english/north-korea-slaps-ban-private-sale-recently-harvested-grains/>



In April 2021, the crackdown on street vendors intensified, with authorities conducting "cleanup operations" and forcibly taking street vendors to labor camps.<sup>333</sup> These measures were aimed at consolidating state control over the economy and curbing unofficial market activities, degrading the informal economy that many North Koreans rely on for survival. During the lean period, when agricultural productivity is low and food stocks are depleted, the restriction on market activities severely limited access to essential food supplies.

The implementation of domestic market restrictions in the DPRK, particularly in the context of the domestic emergency pandemic response, had an additional negative impact on market access and food security. These restrictions, detailed through various reports from 2022 to 2024, reveal a complex interplay between government attempts to reduce COVID-19 transmission through controlling market activities that strained the population's ability to access food.

In September 2022, the doubling of market stall fees significantly burdened many market sellers nationwide.<sup>334</sup> The increased operational costs for merchants, amid declining business due to broader economic constraints, reduced the availability of goods in markets, impacting consumer access to food and essential items. Simultaneously, a nationwide crackdown on street vendors was reported in September 2022, with authorities aiming to eradicate streetside commerce, which they claimed disrupted social order.<sup>335</sup> Such crackdowns, particularly ahead of the government's declaration of an end to the COVID-19 crisis, underscored a broader effort to regulate and control market activities, further limiting informal market operations.

By May 2023, changes in regulations for state-run grain shops added to the market disruptions.<sup>336</sup> The fluctuations in management rules, combined with the bans on the sale of rice and corn in public markets reported in March 2023, forced people to depend on state-run food shops with limited supplies.<sup>337</sup> This shift not only strained the already fragile food distribution system but also eliminated informal credit arrangements that had been a lifeline for many. In April 2023, an expansion in the operating hours of markets near the border was reported, indicating an attempt to alleviate food shortages.<sup>338</sup> However, this measure appeared to be a localized response that did not address the broader restrictions impacting market access nationwide.

The crackdown on underground grain vendors selling rice and corn in March 2024 further illustrates the government's tightening control over food sales, restricting these activities to state-

<sup>333</sup> Chae eun Lee, "North Korean Authorities Initiate 'Cleanup Operation' of Street Vendors," *Daily NK*, April 26, 2021. <https://www.dailynk.com/english/north-korean-authorities-initiate-cleanup-operation-street-vendors/>

<sup>334</sup> Seulkee Jang, "N. Korean Market Stall Fees Have Doubled in the Space of a Year," *Daily NK*, September 9, 2022. <https://www.dailynk.com/english/n-korean-market-stall-fees-have-doubled-in-the-space-of-a-year/#:~:text=The%20sources%20say%20the%20stall,fees%20on%20a%20similar%20basis.>

<sup>335</sup> Chae eun Lee, "N. Korean Police Launch Intense crack down on Street Vendors," *Daily NK*, September 6, 2022. <https://www.dailynk.com/english/n-korean-police-launch-intense-crack-down-on-street-vendors/>

<sup>336</sup> Seulkee Jang, "N. Korea Changes Grain Shop Regulations Several Times in First Quarter of This Year," *Daily NK*, May 16, 2023. <https://www.dailynk.com/english/north-korea-changes-grain-shop-regulations-several-first-quarter-this-year/>

<sup>337</sup> "Food sales banned in markets, leading to anxiety and concern while deepening the poverty suffered by the poor", Rimjin Gang *Asia Press*, February 2, 2024. <https://www.asiapress.org/rimjin-gang/2024/02/society-economy/escape/>

<sup>338</sup> Chae eun Lee, "N. Korea Expands Number of Hours Markets Can Operate in Border Region," *Daily NK*, April 5, 2023. <https://www.dailynk.com/english/n-korea-expands-number-of-hours-markets-can-operate-in-border-region/>



run grain stores.<sup>339</sup> While intended to centralize food distribution, such actions hindered the population's access to staple foods, exacerbating food insecurity, especially when state-run store prices were comparable to those of individual vendors and state-run stores remained unable to meet food demands.

In total, the government's efforts to control and regulate market activities, while aimed at maintaining consolidating food distribution, restricted access to food, amplified the challenges of the lean period and highlighted the extreme food insecurity resulting from the current transition from market-based food distribution to the centrally controlled system in the DPRK.

### *COVID-19 DPRK Restrictions and Quarantine Impacts on Markets*

In addition to the trending transition to a centrally controlled food distribution system, the DPRK's domestic COVID-19 restrictions impacted food security by limiting food accessibility. Quarantine measures in the DPRK, initiated with the border closure on January 25, 2020, significantly impacted the movement of people and access to markets, exacerbating food security concerns across the country. These measures reveal a multifaceted approach to curbing the spread of COVID-19 that had unintended consequences on food availability and access.

In December 2020, North Hamgyong Province saw intensified efforts to monitor and restrict the movement of urban dwellers seeking rice in rural towns, indicating the authorities' awareness of the growing desperation among the population for food.<sup>340</sup> Similarly, the city of Chongjin experienced significant hardships as inter-district travel was blocked and markets were closed as part of the emergency measures to control the pandemic spread.<sup>341</sup> These restrictions directly affected residents' ability to access food and engage in livelihood market activities essential for their survival.

Market operations were further disrupted, with reports in February 2021 of a reduction in market hours and the frequency with which merchants could sell goods, thereby increasing limitations on income opportunities and access to food.<sup>342</sup> The lockdown in Hyesan in November 2020 and the subsequent reports of starvation deaths underscore quarantine measures' severe impact on food security.<sup>343</sup> Furthermore, the severity of the food insecurity in Hyesan during November illustrates the impact of the restrictive quarantine policies, as this instance occurred during the harvest season, which generally entails higher food security.

In May 2022, North Korea declared a "maximum national emergency" after its first officially reported COVID-19 outbreak, leading to the nation's most stringent domestic travel restrictions

<sup>339</sup> Chae eun Lee, "North Korea Cracks down on Grain Vendors in Hyesan," *Daily NK*, March 6, 2024. <https://www.dailynk.com/english/north-korea-cracks-down-grain-vendors-hyesan/>

<sup>340</sup> Jeong Seo-Yong, "N. Hamgyong Province Intensifies Efforts to Prevent Rice from Being Taken out of Rural Towns." *Daily NK English*, December 30, 2020. <https://www.dailynk.com/english/north-hamgyong-province-intensifies-efforts-prevent-rice-taken-out-rural-towns/>

<sup>341</sup> Seo-Yeong Jeong, "Lockdown Impacts Kimchi-Making Activities in Chongjin," *Daily NK*, December 7, 2020. <https://www.dailynk.com/english/lockdown-impacts-kimchi-making-activities-chongjin/>

<sup>342</sup> Seulkee Jang, "[Interview] How Are North Korea's Markets Doing Following the Closure of the Sino-North Korean Border?" *Daily NK*, February 5, 2021. <https://www.dailynk.com/english/interview-how-north-korea-markets-doing-following-closure-sino-north-korean-border/>

<sup>343</sup> Sewon Kim, "North Korea Shuts Down Border City After Guards Caught Smuggling" *Radio Free Asia*, November 6, 2020. <https://www.rfa.org/english/news/korea/hyesan-11062020173455.html#:~:text=North%20Korea%20Shuts%20Down%20Border%20City%20After%20Guards%20Caught%20Smuggling,-2020.11.06&text=Authorities%20in%20North%20Korea%20have,in%20the%20country%20told%20RFA.>

and quarantine measures nationwide.<sup>344</sup> These restrictions further restricted access to markets and, occurring during the agricultural lean period, resulted in a more significant impact on food security. The constraints on movement disrupted the distribution of food supplies and hampered citizens' ability to engage in critical agricultural sowing activities, affecting immediate food availability and future food production.

By August 2022, some travel restrictions were eased, particularly for residents in the border regions, allowing limited movement within provinces. However, significant restrictions remained, preventing free movement and access to broader regional markets.<sup>345</sup> While intended to prevent the spread of COVID-19 from border provinces, such measures hindered the transportation of essential food goods into needy border regions, straining markets, and food security. Reports from June 2022 indicate that authorities lifted some restrictions on market operations in major cities, allowing them to open two or three times a week for limited hours.<sup>346</sup> However, the unlifted reduced operating hours and the continued closure of markets in some regions, like parts of the northern Ryanggang Province, continued to deepen the public's shortage of food accessibility and essential supplies.

Altogether, the quarantine measures and travel restrictions implemented in response to the COVID-19 outbreak in North Korea severely impacted market access and food security, particularly during the critical lean period of the agricultural cycle. The restrictions disrupted the already fragile food supply chain, limited the population's access to essential goods, and affected agricultural productivity.

### **Transportation for Food Accessibility**

Understanding the condition of railway and vehicle transportation in the DPRK is crucial for assessing food accessibility for several interconnected reasons. As highlighted by the significant emphasis placed by former leader Kim Il-sung, the railway system serves as the backbone of the country's transportation infrastructure. It's designated as one of the economy's four key elements, crucial for the smooth operation of North Korea's industrial and agricultural sectors. The railway's extensive reach and central role in freight movement are essential for transporting agricultural products and essential goods across the country. However, challenges such as outdated infrastructure, slow operational speeds, and frequent service disruptions due to electricity shortages critically hamper the system's effectiveness, directly impacting food distribution channels and, consequently, food stability and security.<sup>347</sup>

Despite its critical importance, the condition and operation of North Korea's railway system present significant challenges. As of 2019, the country boasted a network spanning 5,300

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<sup>344</sup> Human Rights in North Korea," *Amnesty International*, <https://www.amnesty.org/en/location/asia-and-the-pacific/east-asia/north-korea/>; "North Korea Confirms First COVID-19 Cases and at Least 1 Death," *Radio Free Asia*, May 12, 2022. <https://www.rfa.org/english/news/korea/covid-05122022204111.html>.

<sup>345</sup> Chang Eun Lee, "N. Korea Eases Certain Travel Restrictions on Border Residents amid 'Victory' against COVID-19," *Daily NK*, August 23, 2023. <https://www.dailynk.com/english/north-korea-eases-certain-travel-restrictions-border-residents-amid-victory-against-covid-19/>.

<sup>346</sup> Seulkee Jang, "N. Korea Lifts Restrictions on the Operation of Markets in Some Major Cities," *Daily NK*, June 9, 2022. <https://www.dailynk.com/english/north-korea-lifts-restrictions-operation-markets-some-major-cities/>.

<sup>347</sup> "Railways in N. Korea," *KBS World Radio*, October 21, 2021. [https://world.kbs.co.kr/service/contents\\_view.htm?board\\_seq=412317#:~:text=It%20has%2010%20major%20railways,line%20between%20Won%20san%20and%20Gamho..](https://world.kbs.co.kr/service/contents_view.htm?board_seq=412317#:~:text=It%20has%2010%20major%20railways,line%20between%20Won%20san%20and%20Gamho..)

kilometers, heavily reliant on this mode for both cargo (90%) and passenger (60%) transport. However, the system is plagued by severe limitations, including outdated infrastructure, slow operational speeds (averaging 15 to 20 kilometers per hour in sections), and frequent service disruptions due to electricity shortages. These inefficiencies render the system inadequate for commercial transport needs, severely hampering its effectiveness in supporting economic activities and food distribution.<sup>348</sup>

The railway's importance lies in its extensive reach and central role in freight and passenger movement, with international connections to China and Russia. Nonetheless, its reliance on electric locomotives is hindered by the country's power shortages. This reliance leads to operational inconsistencies and necessitates the use of diesel locomotives as a stopgap measure, further illustrating the system's fragility.<sup>349</sup>

The centralized nature of North Korea's railway network, with Pyongyang at its hub, highlights its unequal reach and underscores a critical vulnerability. As the central station, Pyongyang facilitates high connectivity to southern rice producing prices, as it serves as the origin and destination for multiple main lines. However, this focus on Pyongyang also leads to significant disparities in accessibility and transferability across the network, as other regions, such as the northeastern provinces, do not have efficient connections. The system's structure limits the access of northern provinces to the food producing South. Across the entire country's railway system, approximately 97% of the tracks are single lines, thus limiting operational capacity and affecting the overall efficiency of food and passenger transport across different regions of the country.<sup>350</sup>

The current state of the railway system in North Korea has direct implications for food stability and security. The inability to guarantee efficient and reliable transportation for agricultural products and essential goods compromises the country's food distribution channels, potentially exacerbating food scarcity issues when food delivery is inconsistent. Additionally, the system's inadequacies hinder economic development by impacting the agricultural sector's capacity to distribute products and critical inputs effectively, thereby affecting the overall food supply chain.<sup>351</sup>

The condition of domestic vehicle transportation further compounds these challenges. The border closures, alongside international sanctions and efforts to curb the spread of COVID-19, have significantly impacted the use of cars and the broader transportation landscape in North Korea. These measures have led to a pronounced fuel shortage, prompting authorities to demand a shift towards more traditional and non-motorized means of transport. Residents have been urged to increase their use of ox carts and bicycles, with motorized vehicles reserved for emergency use only. This directive has resulted in a notable decrease in car usage, with the number of cars on the street dropping by as much as 40%. The scarcity of fuel supplies has not only reduced

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<sup>348</sup> Ibid.

<sup>349</sup> KBS, "Railways in N. Korea", KBS World, October 21, 2021, [https://world.kbs.co.kr/service/contents\\_view.htm?board\\_seq=412317](https://world.kbs.co.kr/service/contents_view.htm?board_seq=412317)

<sup>350</sup> Justin Chang and Sunhwa Kim, "Node centrality of North Korean Railways." *Transportation Planning and Technology*. 45. 2022. 1-15. 10.1080/03081060.2022.2147177.

<sup>351</sup> Yuna Ha, "North Korea's Hyesan-Samjiyon Railroad Plagued with Poor Conditions, Accidents." *Daily NK*, July 23, 2019. <https://www.dailynk.com/english/north-koreas-hyesan-samjiyon-railroad-plagued-with-poor-conditions-accidents/>.

personal motorized transportation but has also led to the collection of unused fuel for military purposes.<sup>352</sup>

The restrictions on movement between regions and general imports, enforced to prevent the spread of COVID-19, have caused severe side effects, exacerbating the challenges faced by the transportation sector.<sup>353</sup> A severe parts shortage, triggered by the ban on imports due to the pandemic, has led to rampant thievery of auto parts, as new and used parts have become almost impossible to find. This situation has forced businesses and individuals to increase security measures to protect their vehicles, with some drivers even sleeping in their cars to safeguard them.<sup>354</sup>

The impact of these challenges extends beyond personal and business transportation to affect food accessibility and security. The shortage of tires has crippled the ability of some companies to carry out business operations, impacting the transportation of goods and services across the country as well as between local markets.<sup>355</sup> Instances, where military provisions could not be transported due to a lack of fuel, illustrate the severe implications for food distribution and security. Soldiers have had to resort to using ox carts and charcoal engine vehicles to transport staple foods from collective farms, highlighting the extent to which transportation challenges affect food supply chains.<sup>356</sup>

Furthermore, the crackdown on citizens who privately sell gasoline in response to the widespread fuel shortages underscores the severity of the situation. The government's efforts to confiscate privately owned fuel reserves reflect the desperate measures being taken to address the fuel shortage, which has significant repercussions for the economic sectors, including transportation, agriculture, and fisheries. These sectors are experiencing a severe gasoline and diesel fuel shortage, further complicating the challenges related to food accessibility and security in North Korea.<sup>357</sup>

In essence, the intertwined challenges facing both railway and vehicle transportation in the DPRK underscore the critical role of transportation infrastructure in ensuring food accessibility and security. The inadequacies in the railway system, compounded by the severe limitations in vehicle transportation due to fuel shortages and restrictions on movement, highlight the vulnerability of the country's food distribution channels. This has led to an increased reliance on

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<sup>352</sup> “North Korean Authorities Demand Residents Use Ox carts as Fuel Supplies Become Scarce.” *Daily NK*, March 16, 2018. <https://www.dailynk.com/english/north-korean-authorities-demand-re/>.

<sup>353</sup> Mun Dong Hui. “Restrictions on Movement in North Korea Are Causing ‘Severe Side Effects.’” *Daily NK English*, January 20, 2021. <https://www.dailynk.com/english/restrictions-movement-north-korea-causing-severe-side-effects/>.

<sup>354</sup> Chang Gyu Ahn, “Auto Parts Are a Hot Commodity in a North Korea Cut off from New Supplies.” *Radio Free Asia*. July 15, 2022. <https://www.rfa.org/english/news/korea/parts-07152022164343.html>.

<sup>355</sup> Chang Gyu Ahn, “North Korean Tire Shortage Grounds Vehicles, Disrupts Commerce.” *Radio Free Asia*. January 13, 2022. <https://www.rfa.org/english/news/korea/tires-01132022161009.html#:~:text=Company%20officials%20say%20that%20cars,are%20hard%20to%20come%20by.&text=A%20shortage%20of%20tires%20in,in%20the%20country%20told%20RFA.>

<sup>356</sup> “Gasoline Prices hit record high; Military Using Charcoal Engines & Ox carts.” *Rimjin Gang, Asia Press*, January 29, 2018. <https://www.asiapress.org/rimjin-gang/2018/01/news/gasoline-price-jump/>.

<sup>357</sup> Jieun Kim, “North Korea Cracks down on Private Fuel Sales during Shortage,” *Radio Free Asia*, April 5, 2022. <https://www.rfa.org/english/news/korea/gas-04052022170522.html>

slower and unreliable non-motorized transport, thus limiting wide scale food accessibility and transferability.

#### Section 4.4: Economic and Food Security by Region and Group

##### **Border Provinces: North Hamgyong, Ryanggang, Changgang, North Pyongan**

The border provinces and cities of North Korea, especially Ryanggang Province and cities like Hyesan, have experienced extreme food insecurity due to a combination of policies, international sanctions, and events, notably COVID-19 restrictions. These have led to starvation conditions affecting both the civilian population and military personnel, including the Korean People's Army 12th Corps and border patrol units.

In 2019, significant quantities of military rice reserves were utilized to mitigate food shortages, indicating the severe economic difficulties North Korea faced, which forced the government to release emergency rice reserves to members of the military and government employees.<sup>358</sup> Despite these efforts, reports from the same year highlighted malnutrition among the 12th Corps stationed along the Sino-North Korean border, with about 3.5% of investigated households in Ryanggang Province consuming only one meal a day, some of which included officers from the 12th Corps.<sup>359</sup>

The economic strain was further exacerbated by intensifying international sanctions, which led to a decrease in smuggling activities. This situation notably impacted border guards, traditionally well-fed due to bribes for overlooking defections and smuggling. The decline in smuggling income made life more difficult for low-ranking border patrol members.<sup>360</sup> By 2021, the protracted closure of the Sino-North Korean border due to COVID-19 drastically affected food provisions to North Korean troops on the border, with soldiers not receiving their proper daily ration of 750 grams per person.<sup>361</sup>

In 2021, civilians faced dire conditions, particularly in border areas like Musan-gun, where residents suffered from severe malnutrition and resorted to consuming wild plants, sometimes with fatal outcomes due to food poisoning.<sup>362</sup> The lockdown measures imposed to control the spread of COVID-19 severely restricted access to food and medicine, leading to reported deaths from starvation.<sup>363</sup> The central government's response to these crises appears to have been inadequate, as evidenced by soldiers being forced to pilfer food from government agencies and

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<sup>358</sup> Yuna Ha, "Facing Food Shortages, Storm Corps Pilfer Government Storage Facilities," *Daily NK*, August 31, 2021. <https://www.dailynk.com/english/facing-food-shortages-storm-corps-pilfer-government-storage-facilities/>.

<sup>359</sup> Mun Dong Hui, "12th Corps on Sino-North Korean Border Still Facing Appalling Conditions" *Daily NK English*, April 16, 2019. <https://www.dailynk.com/english/12th-corps-on-sino-north-korean-border-still-facing-appalling-conditions/>

<sup>360</sup> Mun Dong Hui, "North Korean Border Guards Steal Food from House in China" *Daily NK English*, July 19, 2019. <https://www.dailynk.com/english/north-korean-border-guards-steal-food-from-house-in-china/>

<sup>361</sup> Kim Chae Hwan, "N. Korean Border Patrol's Food Provisions Heavily Impacted by COVID-19 Border Closure," *Daily NK English*, November 25, 2021. <https://www.dailynk.com/english/north-korean-border-patrol-food-provisions-heavily-impacted-covid-19-border-closure/>

<sup>362</sup> "Why Is Hunger Getting Worse in June? 'Malnutrition Has Made It Impossible to Go to Work, and Some Have Died from Eating Wild Plants.'" Rimjin Gang, *Asia Press*, January 24, 2022. <https://www.asiapress.org/rimjin-gang/2021/06/society-economy/sinkoku/>

<sup>363</sup> "Lockdown Death Toll Climbs in Hyesan." Rimjin Gang, *Asia Press*, February 24, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/interview-4/>.



the construction of border infrastructure being hindered by a lack of supplies.<sup>364</sup> These measures, or the lack thereof, indicate a failure to address the root causes of food insecurity and to ensure the accessibility and availability of food for both the civilian population and military personnel.

In 2022, Sinuiju, a historically central trade hub with China, saw an increasing number of food-poor households, with reports of people collapsing from starvation. This challenges the perception that it is a "good city to live in" due to its economic opportunities.<sup>365</sup> The economic downturn has been so severe that residents of Hyesan, another border city, are selling their homes desperately trying to overcome financial difficulties, indicating a significant loss of coping mechanisms for maintaining food security.<sup>366</sup>

By 2023, the food crisis has reached a point where as many as 30% of farmers in Ryanggang and Chagang provinces are too weak from hunger to work on collective farms, necessitating army intervention without substantial relief.<sup>367</sup> Discharged soldiers have complained to authorities about their dire economic situations, receiving inadequate annual rations and lacking basic necessities, underscoring the neglect of vulnerable populations.<sup>368</sup>

Efforts to cope with food insecurity, such as street vending, have also been hindered. Despite easing crackdowns on private food sales, street vendors in Hyesan struggle due to low customer turnout and insufficient earnings, a direct consequence of the population's broader economic hardship.<sup>369</sup>

The neglect of agricultural sectors and the inability to cushion the impact of border closures on the northern provinces' economies demonstrate significant policy failures. Without substantial policy shifts and international support, the border region remains strained under the weight of ongoing food crises, risking greater humanitarian disasters.

### **Port Cities: Nampo, Najin, Chongjin, Rason, Wonsan**

North Korean port cities have experienced extreme food insecurity and starvation conditions. The pandemic prompted the North Korean authorities to impose severe restrictions on the fishing industry, which is the primary source of food and income for port cities. These restrictions had the unintended consequence of severely disrupting the livelihoods of those dependent on the fishing industry as well as the general economy of the port cities.<sup>370</sup>

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<sup>364</sup> Ha Yuna, "North Korea-China Border Wall Running into Trouble Due to Lack of Supplies." *Daily NK English*, August 18, 2021. <https://www.dailynk.com/english/north-korea-china-border-wall-running-into-trouble-lack-supplies/>

<sup>365</sup> Yuna Ha, "Lack of Food Leads to Deaths from Hunger in Sinuiju," *Daily NK*, April 11, 2020. <https://www.dailynk.com/english/lack-food-leads-deaths-hunger-sinuiju/>

<sup>366</sup> Chae Eun Lee, "More and More N. Koreans in Hyesan Sell Homes amid Increasingly Dire Economic Situation." *Daily NK*, April 13, 2022. <https://www.dailynk.com/english/more-and-more-n-koreans-in-hyesan-sell-homes-amid-increasingly-dire-economic-situation/>

<sup>367</sup> Sung Whui Moon and Do Hyung Han, "Food Shortage Spreads in North Korea, with Some Starving Farmers Unable to Work," *Radio Free Asia*, May 23, 2023. <https://www.rfa.org/english/news/korea/food-05232023121954.html>

<sup>368</sup> Seo Yeong Jeong, "Five Former Soldiers in Yanggang Province Complain to Authorities about Poverty." *Daily NK*, January 15, 2024. <https://www.dailynk.com/english/five-former-soldiers-yanggang-province-complain-authorities-poverty/>

<sup>369</sup> Lee Chae Eun, "Hyesan Street Vendors Struggle to Make Ends Meet despite Easing Crackdowns." *Daily NK English*, March 29, 2024. <https://www.dailynk.com/english/hyesan-street-vendors-struggle-make-ends-meet-despite-easing-crackdowns/>

<sup>370</sup> "How is the country's fishing industry doing?" Rimjin Gang. *Asia Press*, December 25, 2023. <https://www.asiapress.org/rimjin-gang/2023/12/society-economy/fisheries/>



The fishing industry in North Korea, essential for the food security of its coastal cities, faced considerable decline due to various controls and restrictions imposed by the Kim Jong Un regime, skyrocketing fuel prices, and the shrinking of available fishing grounds. These factors led to a decrease in fishing operations, particularly among small-scale fishermen and fishing collective unions, who found it increasingly difficult to operate due to the lack of government support for fuel and the depletion of nearshore fishing grounds sold off to Chinese ships for foreign currency, violating UN Security Council economic sanctions.<sup>371</sup>

The decline in the fishing industry's health is partly illustrated by the drastic reduction in expulsion warnings issued by the Japanese coast guard to North Korean ships in the Yamato Bank fishing grounds, dropping from 4,007 in 2019 to zero in 2021, indicating the scale of reduced fishing activity. By 2023, although there was a slight increase in warnings to 24 North Korean ships, this was still a fraction of pre-pandemic levels, reflecting the continued strain on the industry.<sup>372</sup>

Compounding the problem, North Pyongan Province's police agency conducted sweeping crackdowns and inspections on seafood wholesalers in 2023, further disrupting the distribution and sale of seafood, a critical food source for many, amid the pandemic's gradual easing.<sup>373</sup> These crackdowns have likely exacerbated food insecurity by limiting the availability and accessibility of seafood in local markets, impacting both sellers and consumers.

Furthermore, the central government's policies and actions significantly contributed to the exacerbation of food insecurity in port cities. By prioritizing foreign currency earnings through the sale of fishing rights and failing to provide necessary support to the fishing industry amid international sanctions and the pandemic, the government has hindered port cities capacity to maintain independent food security.

The combination of COVID-19 restrictions, international sanctions, government policies prioritizing foreign currency over food security, and the crackdown on seafood distribution have severely reduced the food security of port cities. The central government's failure to adequately support the fishing industry and ensure the availability of seafood has likely led to extreme food insecurity in North Korean port cities.

## Orphans

Orphans in North Korea are facing starvation conditions due to systemic issues within the country's orphanages, exacerbated by broader economic difficulties and policy decisions. Despite Kim Jong Un's proclaimed "love for children" and governmental efforts to expand and reform childcare facilities, severe malnutrition and forced labor remain rampant among orphans. The root causes include the orphanage staff's embezzlement of supplies and rations, forcing many

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<sup>371</sup> Ibid.

<sup>372</sup> Ibid.

<sup>373</sup> Seo Yeong Jeong, "N. Pyongan Province's Police Agency Conducts Sweeping Crackdowns on Seafood Wholesalers." *Daily NK*, May 3, 2023, <https://www.dailynk.com/english/n-pyongan-provinces-police-agency-conducts-sweeping-crackdowns-on-seafood-wholesalers/>.

children to participate in farm work to feed themselves, with reports indicating children appear as "skin and bones".<sup>374</sup>

While there have been improvements in the management of orphanages in 2019, leading to decreased visibility of homeless children (*kotjebi*) in markets and train stations, the quality of meals and care within these facilities remains poor. Many orphans ran away due to mistreatment, only to be caught and returned, highlighting a cycle of escape and return fueled by inadequate care and support.<sup>375</sup> This situation was further highlighted by the death of an orphan at a boarding school in Pyongsong, North Pyongan Province due to exhaustion and malnutrition, where the promised rations were not fully provided, and staff embezzled food intended for the children.<sup>376</sup>

2020's economic crisis has further strained the resources available to orphanages, with reports of increasing numbers of *kotjebi* and children running away from these institutions due to the inability to properly provide meals.<sup>377</sup> North Hamgyong Province's efforts to find and support wandering graduates of schools for orphans, some of whom have turned to criminal activities out of desperation, underscore the severity of the situation and the inadequate support provided to these vulnerable individuals.<sup>378</sup>

Despite the belief among some parents that orphanages receive supplies of food and medicine donated by the international community, the reality on the ground indicates a dire lack of resources, leading to growing numbers of parents leaving their children at orphanages in hopes they will receive better care. This desperation reflects the broader economic hardships families face, further compounded by restrictive COVID-19 policies that have hampered income and increased food insecurity.<sup>379</sup>

The central government, while professing to prioritize the welfare of children and expanding the orphanage system, has failed to adequately address the corruption and mismanagement within these facilities that lead to food being diverted away from those in need. The cycle of malnutrition, forced labor, and abuse within orphanages, coupled with the broader economic challenges faced by the country, paints a bleak picture of the current state of child welfare in North Korea.

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<sup>374</sup> Song Il Kim, "Malnourishment Rife in Many of North Korea's Orphanages." *Daily NK*. November 30, 2018. <https://www.dailynk.com/english/malnourishment-rife-in-north-koreas-orphanages/>.

<sup>375</sup> "Penniless Protectors." Rimjin Gang, *Asia Press*, January 31, 2019. <https://www.asiapress.org/rimjin-gang/2019/01/recommendations/homeless-disappear/>.

<sup>376</sup> Seulkee Jang, "Orphan at North Korean Boarding School Dies from Exhaustion, Malnutrition." *Daily NK*, August 27, 2019. <https://www.dailynk.com/english/orphan-at-north-korean-boarding-school-dies-from-exhaustion-malnutrition/>.

<sup>377</sup> "Coronavirus Economic Crisis Forces Married Women into Prostitution, Urban Poor into Foraging, and Orphans into Begging" Rimjin Gang, *Asia Press*, July, 7, 2022, <https://www.asiapress.org/rimjin-gang/2020/07/recommendations/economic-crisis/>

<sup>378</sup> Jeong Seo-Yong, "N. Hamgyong Province Takes Measures to Help Wandering Graduates of Schools for Orphans." *Daily NK English*, June 15, 2023. <https://www.dailynk.com/english/north-hamgyong-province-takes-measures-help-wandering-graduates-schools-orphans/>

<sup>379</sup> Hyemin Son, "Starving North Korean Parents Increasingly Abandoning Children at Orphanages." *Radio Free Asia*. March 3, 2023. <https://www.rfa.org/english/news/korea/orphans-03022023155815.html>.

## Elderly

The elderly in North Korea are facing extreme food insecurity due to a complex interplay of factors, including the country's economic downturn and systemic issues with the provision of social security. The pandemic-induced border closures with China, a crucial source of trade and medicine for North Korea, have exacerbated existing vulnerabilities, leading to a dire shortage of critical medicine necessary for many elderly. The pandemic-induced border closures have significantly impacted the elderly, with reports indicating that about 60% of the elderly in some neighborhoods have died prematurely since the onset of the pandemic, mainly due to the unavailability of medicine.<sup>380</sup>

The elderly population, unable to subsist on their meager state pensions, have been forced to sell beer ration tickets to earn small amounts of money for food. This illustrates the dire state of the country's economy and the insufficiency of government-provided pensions, which have not been enough to survive for decades.<sup>381</sup> The situation is particularly grim for those without family support or the ability to engage in business, with social security pensions often not paid on time and covered by the dropping taxes from market merchants.<sup>382</sup>

In response to the worsening economic conditions, there has been a noticeable increase in the number of elderly individuals and children begging at market entrances, known as *kotjebi*. Many families facing difficult economic circumstances have trouble feeding their elderly relatives, leading to instances of abandonment. Local authorities have attempted interventions, such as ensuring that households do not chase away or abuse their elderly relatives, but these measures have been insufficient to address the root causes of the crisis.<sup>383</sup>

Despite these challenges, the North Korean authorities have not effectively cracked down on begging, leaving many elderly beggars alone with the rationale that arresting them would only add to the burden of feeding them. This lack of action reflects a broader failure to adequately support the elderly population amidst the economic and health crises gripping the country.<sup>384</sup>

The dramatic increase in robberies, crimes, and the abandonment or neglect of elderly parents, as reported in 2023, underscores the strain experienced by the elderly and the desperate measures some are taking to survive. It is evident that the central government has failed to mitigate extreme food insecurity for the elderly, a population particularly vulnerable to the compounded

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<sup>380</sup> "Lockdown Death Toll Climbs in Hyesan." Rimjin Gang, *Asia Press*, February 24, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/interview-4/>; "Investigating N. Korea's COVID-19 Situation (1)...Some areas of N. Hamgyung Province suffer a death rate of 3-5%...Nobody believes the government's statistics...Increasing deaths of children and elderly people" Rimjin Gang, *Asia Press*, July 4, 2022. <https://www.asiapress.org/rimjin-gang/2022/07/recommendations/korona-12/>

<sup>381</sup> Chang Gyu Ahn, "North Korea's Elderly, Struggling to Survive, Sell What They Can for Food." *Radio Free Asia*. August 19, 2022, [https://www.rfa.org/english/news/korea/beer\\_ticket-08192022172728.html](https://www.rfa.org/english/news/korea/beer_ticket-08192022172728.html).

<sup>382</sup> Ibid.

<sup>383</sup> "Increase in Wandering Homeless People throughout North Korea...poverty-Stricken Elderly People and Children Forced out into the Streets, with Some Even dying...The Authorities Order Thorough Measures to Be Taken" Rimjin Gang, *Asia Press*, April 25, 2023. <https://www.asiapress.org/rimjin-gang/2023/04/society-economy/homeless/>.

<sup>384</sup> "Coronavirus Economic Crisis Forces Married Women into Prostitution, Urban Poor into Foraging, and Orphans into Begging."

crises of economic sanctions, the pandemic, and systemic inadequacies in social welfare provisions.<sup>385</sup>

### Prisoners

Prisoners, which number approximately 80,000 to 120,000, in North Korea are subjected to extreme food insecurity and starvation conditions due to systemic issues within the prison system.<sup>386</sup> A significant survival mechanism for prisoners – receiving food donations from relatives – has been heavily relied upon due to the insufficient provisions supplied by prison facilities. Family contributions have become increasingly crucial as the food shortage within correctional labor camps has worsened, prompting officials to initially encourage more frequent visits from inmates' families to bring food provisions.<sup>387</sup> However, as a result of quarantine mandates in 2020, family visitation has been reduced from once a month to once every three months, thereby significantly reducing food security for prisoners.<sup>388</sup> There have been no reports indicating that prisoner visitation rules have transitioned back to once a month. Thereby, in response to the pandemic, COVID-19 restrictions further hindered the already limited access to additional food provisions from families, directly contributing to an increase in starvation deaths.

In July 2022, at least 35 women prisoners in prisons north of Pyongyang died from malnutrition after their families were unable to visit and deliver food due to COVID-19 restrictions. This situation was emblematic of the broader crisis within North Korean detention facilities, where the food provided by the prisons is insufficient, especially considering the hard labor expected of prisoners.<sup>389</sup>

Despite attempts to alleviate some of the strain through family donations, the harsh conditions within these camps, including forced labor, malnutrition, and disease, remain rampant. These conditions have been exacerbated by overcrowding, as noted in 2021 when the government's tightening of social control policies led to an increase in detention rates, pushing facilities well beyond their capacity. This overcrowding has made food distribution more challenging and intensified the spread of diseases due to cramped and unsanitary living conditions.<sup>390</sup>

The government has intermittently addressed these issues through mass amnesties, such as the release of approximately 7,000 prisoners in 2020 and encouraging local governments and residents to support the reintegration of these individuals. However, this approach has transferred

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<sup>385</sup> "Famine in the provinces: Many people have died from the start of May due to starvation and disease. Workers can't go to work due to malnutrition — even at DPRK's largest iron mine," *Asiapress*. May 22, 2023. <https://www.asiapress.org/rimjin-gang/2023/05/society-economy/famine2/>

<sup>386</sup> US Department of State, "North Korea - United States Department of State." <https://www.state.gov/reports/2022-country-reports-on-human-rights-practices/north-korea/>

<sup>387</sup> Yo Jin Kim, "Food Donations from Relatives Sought for Correctional Labor Camps." *Daily NK*. July 23, 2018. <https://www.dailynk.com/english/food-donations-from-relatives-sought-for-correctional-labor-camps/>.

<sup>388</sup> Hyemin Son, "At Least 35 North Korean Prisoners Are Said to Have Starved to Death in July," *Radio Free Asia*, August 22, 2022. <https://www.rfa.org/english/news/korea/prison-deaths-08222022184150.html>

<sup>389</sup> Ibid.

<sup>390</sup> "Cash-Strapped State Releases Prisoners and Reduces Sentences Due to Dwindling Supplies of Food." Rimjin Gang. *Asia Press*. August 2, 2021. <https://www.asiapress.org/rimjin-gang/2021/08/society-economy/detainees/>.

the burden of care onto already cash-strapped local entities and impoverished residents without addressing the root causes of malnutrition and poor living conditions within prisons.<sup>391</sup>

Moreover, the extreme working and living conditions, particularly in places like the Bukchang concentration camp, have led to numerous deaths from accidents, diseases, and malnutrition. In the first quarter of one year alone, over 200 prisoners died under such circumstances, highlighting the severe neglect and mistreatment faced by prisoners.<sup>392</sup>

While there have been efforts to alleviate overcrowding through amnesties, such as the “great amnesty” at the end of January 2022, these measures have not directly addressed the issue of food insecurity. Released prisoners were to be provided with a week's supply of food, which, although helpful, does not address the long-term needs of those who have been malnourished during their incarceration. This policy also reveals the government's awareness of the malnutrition problem. Still, it highlights a lack of comprehensive strategy to ensure the well-being of prisoners and those recently released.<sup>393</sup>

In 2024, amendments were made to re-education camp regulations to shorten sentences for certain prisoners, a measure explicitly aimed at reducing the number of deaths within these facilities. This action indicates recognition by the authorities of the severe conditions within the camps, including the impact of COVID-19. However, it also underscores a reactive rather than proactive approach to the welfare of prisoners, focusing on reducing death counts without necessarily improving the conditions that lead to such deaths in the first place.<sup>394</sup>

The reliance on family visits for food supplementation, the inadequate government response to the food needs of prisoners, and the use of amnesties as a stop-gap measure reflect systemic failures in addressing food insecurity within North Korea's prison system. The lack of substantive action by the central government has not only failed to ensure the basic right to food for prisoners but has also placed a significant strain on the families of those incarcerated and the communities expected to support released prisoners. The situation highlights the critical need for comprehensive reforms to address food security and living conditions in North Korean prisons and detention facilities.

### **Merchants, Traders, Transporters**

The traders, merchants, transporters, and street vendors in North Korea experience grim conditions, particularly extreme food insecurity and starvation. Several policies and events have contributed to this dire situation, leading to the loss or hindrance of main coping mechanisms for maintaining food security or accessibility.

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<sup>391</sup> Jieun Kim, “North Korea Releases 7,000 Prisoners, Orders People to Provide for Them” *Radio Free Asia*, November 20, 2020. <https://www.rfa.org/english/news/korea/prison-11202020193824.html>

<sup>392</sup> Dong Hui Mun, “Working and Living Conditions at the Bukchang Prison Camp Are Extremely Poor.” *Daily NK*, April 16, 2021. <https://www.dailynk.com/english/working-living-conditions-bukchang-prison-camp-extremely-poor/>.

<sup>393</sup> “Authorities and Families Anxious Following Mass Pardon of Malnourished Prisoners.” *Rimjin Gang, Asia Press*, January 30, 2022. <https://www.asiapress.org/rimjin-gang/2022/01/society-economy/tokusya/>.

<sup>394</sup> Dong Hui Mun, “N. Korea Cuts Re-Education Camp Sentences to Reduce Death Count.” *Daily NK*, February 5, 2024. <https://www.dailynk.com/english/n-korea-cuts-re-education-camp-sentences-to-reduce-death-count/>.

One of the primary causes of extreme food insecurity among this group is the economic stagnation experienced by the country, compounded by specific government policies. For instance, the increase in market fees has placed a significant burden on merchants who are already struggling due to low consumer spending.<sup>395</sup> This is a direct consequence of decreased purchasing power among ordinary North Koreans, exacerbated by suspending operations at most state-run factories in major cities, including Pyongyang.<sup>396</sup> The resulting decline in the number of merchants in some areas of the country indicates a shrinking economy, which directly impacts the livelihoods of those dependent on market activities for their survival.

Moreover, the shrinking profits for North Korean porters in Ryanggang Province suggest a broader decline in the distribution of wholesale goods throughout the country.<sup>397</sup> This decline indicates reduction in economic activity and the movement of goods, further straining the ability of traders, merchants, and transporters to maintain their livelihoods. The situation is so severe that many can only afford to pay the mandatory market fees and buy a single meal a day, indicating extreme food insecurity. The challenges faced by cart-pullers in Hyesan further illustrate the dire circumstances for those involved in the transportation of goods within the informal economy.<sup>398</sup> The crackdown on these individuals, many of whom were detained or sent to labor camps, not only deprived them of their livelihoods but also reflected the harsh measures employed by the authorities against those trying to navigate the economic challenges.

The stagnation in North Korea's markets is further evidenced by the significant drop in earnings from restaurants located near local markets.<sup>399</sup> This decline reflects the falling numbers of market-goers and merchants, who are primary customers for these establishments, further illustrating the economic difficulties faced by those involved in market activities.

Additionally, the economic crisis has led to a situation where about half of the market traders are living hand to mouth, a significant increase from the previous year.<sup>400</sup> This demonstrates the depth of the economic and food insecurity crisis, as traders express fears of starving to death if the situation persists.

The central government's role in this crisis appears to be more of exacerbation than alleviation. By increasing market fees and failing to support the economic needs of traders, merchants, and transporters, the government has contributed to the loss of food security. The increase in market fees, in particular, represents a significant hindrance to economic activity in the markets, which are essential for the livelihoods of a significant portion of the population.

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<sup>395</sup> Dong Hui Mun, "North Korean Authorities Raise Market Fees at Okjon Market." *Daily NK*, May 20, 2019. <https://www.dailynk.com/english/north-korean-authorities-raise-market-fees-at-okjon-market/>

<sup>396</sup> Dong Hui Mun, "Drastic Fall in Market Merchant Numbers in Some Areas of North Korea." *Daily NK*, April 18, 2019. <https://www.dailynk.com/english/drastic-fall-in-market-merchant-numbers-in-some-areas-of-north-korea/>

<sup>397</sup> Mi Jin Kang, "Shrinking Profits for North Korean Porters in Ryanggang Province." *Daily NK*, May 2, 2019. <https://www.dailynk.com/english/shrinking-profits-for-north-korean-porters-in-ryanggang-province/>

<sup>398</sup> Chae Eun Lee, "Hyesan Tightens Crackdown on Pull-Cart Delivery People." *Daily NK*, June 19, 2023. <https://www.dailynk.com/english/hyesan-tightens-crack-down-pull-cart-delivery-people/>

<sup>399</sup> Dong Hui Mun, "Evidence Points to Stagnation in North Korea's Markets." *Daily NK*, May, 27, 2019. <https://www.dailynk.com/english/evidence-points-to-stagnation-in-north-korea-markets/#:~:text=Earnings%20from%20restaurants%20located%20near,primary%20customers%20for%20these%20establishments.>

<sup>400</sup> "Coronavirus Economic Crisis Forces Married Women into Prostitution, Urban Poor into Foraging, and Orphans into Begging."



The imposition of lockdowns for health measures and political events has led to significant disruptions in market operations.<sup>401</sup> The closure of markets during crucial periods not only directly impacted the income of vendors but also highlighted the fragility of their economic status, forcing many to sell their stalls due to the inability to sustain their businesses. This drastic measure indicates the loss of a critical income generating mechanism for these individuals, namely the ability to engage in daily trade to secure their basic needs.

Despite some easing of crackdowns, street food vendors continue to struggle, as indicated in the report from 2024.<sup>402</sup> The persistence of economic hardships, even with reduced enforcement intensity, highlights the ongoing difficulty in accessing food and maintaining food security. The inability of people to afford even basic food items illustrates the widespread impact of these challenges on various sectors of the informal economy.

Lastly, the reorganization and closure of trading companies have likely compounded these challenges by disrupting established trade networks and further limiting access to goods and resources necessary for survival.<sup>403</sup> This decision has not only affected those directly involved in trade but also had a ripple effect on the broader economy, particularly affecting those reliant on small-scale trading and informal economic activities.

The extreme food insecurity and starvation conditions experienced by traders, merchants, transporters, and street sellers in North Korea are the results of a combination of government policies, economic challenges, and the impacts of the COVID-19 pandemic. The central government's actions, including lockdowns, crackdowns on informal selling, and the restructuring of trade networks, have directly contributed to the loss of critical coping mechanisms, exacerbating the struggle to access food and maintain basic livelihoods. Reports and statistics from these sources paint a grim picture of the struggle for survival faced by those operating within North Korea's informal economy.

## Teachers

Teachers in North Korea faced extreme food insecurity and starvation conditions primarily due to the country's stringent COVID-19 policies, including school closures and the prohibition of private tutoring. Initially, in February 2020, North Korea closed all schools for a month as a part of its emergency disease control system to prevent a COVID-19 outbreak. This closure was extended until April 15, 2020, significantly impacting teachers' livelihoods, given their reliance on the education system for income.<sup>404</sup>

<sup>401</sup> Seo-Yeong Jeong, "Some Businesspeople in North Korea Are Selling Their Market Stalls" *Daily NK*, January 19, 2021.

<https://www.dailynk.com/english/some-business-people-north-korea-selling-market-stalls/#:~:text=Some%20businesspeople%20in%20North%20Korea%20are%20selling%20their%20market%20stalls,-The%20number%20of&text=Some%20businesspeople%20in%20North%20Hamgyong,to%20sell%20their%20market%20stalls.>

<sup>402</sup> Lee Chae Eun, "Hyesan Street Vendors Struggle to Make Ends Meet despite Easing Crackdowns." *Daily NK English*, March 29, 2024.

<https://www.dailynk.com/english/hyesan-street-vendors-struggle-make-ends-meet-despite-easing-crackdowns/>

<sup>403</sup> "Implementation of the large-scale restructuring of trading companies. Trading companies criticized for becoming run like 'personal property' and for corrupt activities." Rimjin-Gang, *Asia Press*, March 22, 2024. <https://www.asiapress.org/rimjin-gang/2024/03/society-economy/dismissal-2/>

<sup>404</sup> Tae Joo Jeong, "N. Korea Closes Schools throughout the Country for One Month"; Joo, "Sources." *Daily NK*, February 21, 2020. <https://www.dailynk.com/english/north-korea-closes-schools-throughout-country-one-month/>.

The ban on private tutoring dealt a critical blow to educators who supplemented their meager incomes through private lessons. Despite the illegality of private tutoring in North Korea, it was a thriving sector that many teachers depended on due to the insufficiency of their official salaries, which were less than U.S. \$5.00 monthly. The National Emergency Quarantine Committee's crackdown on private tutoring in response to the pandemic left teachers in a dire financial situation, with some expressing fears of starving to death as a more immediate threat than the virus itself.<sup>405</sup>

The central government's failure to support teachers during this crisis is evident in reports of educators resorting to desperate measures to survive. For instance, kindergarten teachers in Hyesan were investigated for pilfering soy milk intended for children to sell on the market, a direct result of the state's inability to provide for their basic livelihood through rations. This indicates the severe economic difficulties faced by educators and the lack of governmental support to ensure their welfare.<sup>406</sup>

The economic strain and food insecurity experienced by teachers also led to a decline in school attendance, with over 40% of students in Hyesan's primary and secondary schools failing to show up for class due to economic troubles, exacerbating the challenges faced by educators.<sup>407</sup> In Chongjin, kindergarten teachers, struggling to afford their meals, began cobbling together lunches from their students' lunch boxes, highlighting the dire circumstances and the collapse of previously provided support systems, such as food rations and bribes from parents.<sup>408</sup>

In response to the growing crisis, some teachers turned to students' parents for help, asking for rice, money, or other items to make ends meet. This shift indicates a significant degradation of the teachers' economic stability and highlights the central government's failure to provide adequate support or alternatives to address the food insecurity and economic challenges faced by educators during the pandemic.<sup>409</sup> The decrease in kindergarten enrollment further illustrates the compounded economic pressures on both families and teachers. Parents, facing their financial difficulties, are less inclined to send their children to kindergartens, leading to reduced class sizes and further diminishing the already scant resources and kickbacks that teachers relied on for a decent living.<sup>410</sup>

<sup>405</sup> Hyemin Son, "Teachers Face Hardship in North Korea as COVID-19 Halts Private Classes." *Radio Free Asia*. March 16, 2020. <https://www.rfa.org/english/news/korea/nk-coronavirus-tutor-03162020175346.html>.

<sup>406</sup> Chae Eun Lee, "Hyesan Kindergarten under Investigation for Pilfering Soy Milk Intended for Children." *Daily NK English*, April 15, 2022. <https://www.dailynk.com/english/hyesan-kindergarten-under-investigation-for-pilfering-soy-milk-intended-for-children/#:~:text=%E2%80%9CThe%20Hyesan%20department%20of%20education,8>.

<sup>407</sup> Chae Eun Lee, "More than 40% of Students at Schools in Hyesan Fail to Show up for Class." *Daily NK*, April 8, 2022. <https://www.dailynk.com/english/more-than-40-students-schools-hyesan-fail-show-up-class/#:~:text=The%202022%20school%20year%20in,to%20show%20up%20for%20clas>

<sup>408</sup> Chae Eun Lee, "Chongjin Kindergarten Teachers Cobble Together Lunches from Students' Lunchboxes." *Daily NK*, March 29, 2023. <https://www.dailynk.com/english/chongjin-kindergarten-teachers-cobble-together-lunches-from-students-lunchboxes/>

<sup>409</sup> Chae Eun Lee, "N. Korean Teachers Increasingly Turn to Students' Parents for Help." *Daily NK*, February 29, 2024. <https://www.dailynk.com/english/north-korean-teachers-increasingly-turn-students-parents-help/#:~:text=North%20Korean%20teachers%20facing%20severe,put%20food%20on%20the%20table>.

<sup>410</sup> Chae Eun Lee, "N. Korean Parents Less Inclined to Send Kids to Kindergarten than Before." *Daily NK*, March 26, 2024. <https://www.dailynk.com/english/north-korean-parents-less-inclined-send-kids-kindergarten-than-before/>.

Overall, the policies and events triggered by the COVID-19 pandemic have led to a severe crisis for teachers in North Korea, stripping away their main mechanisms for maintaining food security and accessibility. The central government's actions, or lack thereof, have significantly contributed to this crisis, leaving teachers in a precarious situation with few viable options to secure their basic needs.

### **Citizens in Quarantine**

Covid-19 policies precipitated extreme food insecurity and conditions leading to starvation among quarantined citizens in the DPRK. The central government's response to the outbreak involved the imposition of one of the world's strictest quarantine regimes, including the closure of borders, halting of foreign tourism, and the establishment of a state-run emergency quarantine system. The Central People's Committee for Health (CPCH) was organized to lead these efforts, with the Standing Committee of the Supreme People's Assembly (SPA) extending the incubation period of COVID-19 from 14 to 30 days, requiring prolonged quarantines that the nation's struggling economy was ill-equipped to support.<sup>411</sup>

The main coping mechanisms for maintaining food security and accessibility, notably the operation of markets and the free movement of individuals, were severely hindered or lost due to these measures. Markets were closed, and strict lockdowns were imposed, making it impossible for citizens to buy food or engage in any form of economic activity. This led to an acute disruption in the supply chain, with the authorities attempting, albeit ineffectively, to distribute food and other necessities through "volunteers" or administrative staff. This system proved inadequate, as reported by various sources, including residents and contacts of *Rimjin-gang*, highlighting the dire circumstances of starvation and disease exacerbated by the lockdowns rather than the virus itself.<sup>412</sup>

The strain experienced by the Northern region was profound. Military personnel, isolated from the public to prevent the spread of the coronavirus, faced major nutritional deficiencies, indicating a broader crisis of food insecurity.<sup>413</sup> In Hyesan, the central city of Ryanggang Province, economic activities were paralyzed due to lockdowns, instigating widespread fear of death by starvation among its residents. Efforts by the authorities to provide rations were either delayed or insufficient, leading to panic and uncertainty among the population.<sup>414</sup> Despite the authorities' intentions to control the pandemic's spread, the lack of effective measures to ensure food accessibility and security led to numerous reported deaths due to starvation and lack of medical supplies.<sup>415</sup>

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<sup>411</sup> Young-Jeon Shin, "The DPRK's Covid-19 Outbreak and Its Response." *Journal for Peace and Nuclear Disarmament* 4 (sup1): 320–41. doi:10.1080/25751654.2021.1906592.

<sup>412</sup> "Residents Face Starvation as Border City is Blocked Off to Contain Potential COVID-19 Outbreak" *Rimjin Gang, Asia Press*. December 1, 2020. <https://www.asiapress.org/rimjin-gang/2020/12/society-economy/korona-2/>. And "Crime and Suicide on the Rise as Border City Residents Face Starvation in Second 30-Day Lockdown," *Asiapress*, February 9, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/lockdown-2/>.

<sup>413</sup> "COVID-19 Countermeasures Ban Soldiers from Leaving Bases, Leading to Widespread Malnourishment." *Rimjin Gang, Asia Press*. May 18, 2020, <https://www.asiapress.org/rimjin-gang/2020/05/recommendations/ban-soldiers/>.

<sup>414</sup> "Crime and Suicide on the Rise as Border City Residents Face Starvation in Second 30-Day Lockdown."

<sup>415</sup> "Hyesan Lockdown Lifted Early Due to Local Reports of Starvation." *Rimjin Gang, Asia Press*. February 18, 2021. <https://www.asiapress.org/rimjin-gang/2021/02/society-economy/hyesan-lockdown-lifted/>.

The central government's failure to mitigate extreme food insecurity and inaccessibility stemmed from their prioritization of stringent COVID-19 containment measures over the sustenance needs of their population. While the government established extensive quarantine measures and organized bodies to combat the spread of the virus, their efforts to supply quarantined individuals with food and household goods were insufficient and poorly executed.

### **Hwagyo Ethnic Chinese**

The Hwagyo, or ethnic Chinese residents in North Korea, traditionally considered among the wealthier groups due to their import-export businesses facilitated by frequent travel to China, faced extreme food insecurity and starvation conditions primarily due to the COVID-19 pandemic-induced border closure. This group is estimated to contain approximately 5,000 individuals.<sup>416</sup> This abrupt halt in cross-border trade severed their economic lifeline, drastically impacting their livelihoods and leading to severe consequences, including starvation deaths reported in Wonsan and likely elsewhere. The border closure not only disrupted their business activities but also restricted access to essential goods and services, leaving some Hwagyo in extreme poverty and unable to afford basic necessities.<sup>417</sup>

The central mechanism for the Hwagyo to generate income, their ability to conduct cross-border trade, was directly hindered by the pandemic response measures, notably the border closures with China. This led to a significant loss of income for those reliant on these businesses, effectively stripping away their main means of maintaining food security and accessibility. The situation was so dire that even the prospect of leaving North Korea for China, a common escape route from economic hardship for the Hwagyo, became unfeasible due to financial constraints related to travel and quarantine requirements.<sup>418</sup>

The central government of North Korea, in its effort to combat the spread of COVID-19, failed to provide adequate support to mitigate the adverse effects of its border closure policy on the Hwagyo community. Despite their previously relatively privileged status, the Hwagyo were left to face the economic and food security crises without apparent governmental intervention or assistance. Furthermore, restrictions placed on the Hwagyo's ability to engage in marketplace activities further exacerbated their hardships, indicating a lack of targeted support or relief measures from the government to address their specific vulnerabilities during the pandemic.<sup>419</sup>

More than 70% of the Hwagyo community chose to weather the pandemic in China due to the severe economic difficulties faced in North Korea, a decision reflecting the extreme strain experienced by the group. Those who returned have expressed regret, particularly due to the restrictions on their economic activities, which have been crucial for their survival. This situation underscores the broader economic challenges and systemic failures within North Korea to protect

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<sup>416</sup> Jeong Yon Park, "North Koreans Alarmed by Starvation Deaths of Well-Off Ethnic Chinese." *Radio Free Asia*. July 20, 2021. <https://www.rfa.org/english/news/korea/hwagyo-07202021220452.html>.

<sup>417</sup> Ibid.

<sup>418</sup> Ibid.

<sup>419</sup> Chang Gyu Ahn, "Chinese Residents of North Korea Worry about Returning from China." *Radio Free Asia*, March 21, 2024. <https://www.rfa.org/english/news/korea/hwagyo-03212024094803.htm>

even its more economically advantaged groups from the devastating impacts of its pandemic response policies.<sup>420</sup>

#### **Section 4.5: North Korea's Agricultural Production**

North Korea's agricultural system is shaped by its unique geography and centralized economic policies. With only 15 percent of its land suitable for agriculture, the country faces significant challenges in ensuring food security.<sup>421</sup> This land, predominantly located in the western plains and along the eastern coast, is crucial for cultivating staple crops such as rice, maize, and potatoes, which form the backbone of the nation's food supply. These crops are cultivated on cooperative and state farms, with cooperative farms playing a vital role in grain production and state farms focusing on livestock and cash crops.

The agricultural calendar in North Korea is tightly synchronized with the country's climatic conditions. The main planting season begins in April with the onset of spring rains, leading to the harvest between September and October.<sup>422</sup> This period is critical for paddy and maize, the primary cereals, which are mainly grown in the southern and central provinces. Additionally, early-season crops like winter wheat and barley are planted in October/November and harvested by early July, providing crucial sustenance during the lean season.<sup>423</sup>

Assessing and forecasting food production and security in North Korea involves considerable uncertainty due to poorly understood factors and a lack of reliable on-the-ground data. This lack of clarity complicates the accurate and timely assessment and forecasting of agricultural outputs. Over time, it has become apparent that the food security scenario in North Korea is heavily influenced by the interplay of border dynamics with China and the impact of ongoing international economic sanctions. These external elements affect the availability of essential agricultural inputs, such as fertilizers and machinery, and have broader implications for the country's economic stability and food accessibility.

#### **Section 4.6: Agricultural Production Dynamics in North Korea Before the Pandemic (2018-2020)**

##### **Influencing Factors on Agricultural Outlook**

Between 2018 and 2020, the agricultural output in North Korea was heavily influenced by several factors, including the availability of irrigation water, farm power, and fuel, and the use of fertilizers. Due to the country's reclusive nature, concrete data on these aspects are sparse, yet from the available information, it is clear that the period was marked by significant challenges.

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<sup>420</sup> Ibid.

<sup>421</sup> Mario Zappacosta et al., "Democratic People's Republic of Korea FAO/WFP Joint Rapid Food Security Assessment," *Food and Agriculture Organization of the United Nations and World Food Programme*, May 2019. <https://openknowledge.fao.org/server/api/core/bitstreams/b08bed4d-75d3-4dfc-8ef1-ce806bc11229/content>.

<sup>422</sup> Ibid.

<sup>423</sup> Ibid.



In terms of irrigation, the 2018/19 season was particularly difficult due to drier-than-normal conditions, leading to lower water levels in irrigation reservoirs and difficulties in water pumping, attributed to fuel shortages and erratic electricity supply.<sup>424</sup> By 2020, however, the situation appeared to have improved with record rainfall aiding in meeting irrigation requirements, although the distribution of rainfall was uneven across the country.<sup>425</sup>

Fertilizer availability was another area of concern. In 2018, phosphate and potash were reported to be in significant shortage, at 70% and 50% below the five-year average, respectively. To combat this, some farmers resorted to producing self-made fertilizers from organic materials.<sup>426</sup> By 2020, there was an improvement in the availability of nitrogenous fertilizers, but phosphate and potash supplies still remained a challenge.<sup>427</sup>

The aspect of farm power and fuel also presented issues. In 2018, fuel supplies for agricultural operations were considerably lower than previous years. Cooperative farms reported being able to use mechanical power in only 60-70% of farming operations due to fuel shortages and lack of spare parts. As a result, many farms relied on oxen and manpower, which led to reduced efficiency and increased post-harvest losses.<sup>428</sup> By 2020, there was a reported increase in the supply of diesel, but petrol supplies dipped and overall fuel availability remained below the five-year average.<sup>429</sup>

The balance between food supply and demand in North Korea has been a complex issue shaped by various factors, including governmental control, international sanctions, climatic challenges, and agricultural practices. The assessment of this balance between 2018 and 2020 is a combination of limited official reports from the North Korean government, international estimates from agencies such as the United Nations Food and Agriculture Organization (FAO), and satellite imagery data analyzed by the United States Department of Agriculture (USDA).

In 2018, North Korea faced significant setbacks in agricultural output due to weather-related area losses, dysfunctional agricultural equipment, and limited availability of inputs like fertilizer, which resulted in a 5% decrease in grain production estimates, prompting government countermeasures ("Reduced grain production estimates spark government countermeasures - *Daily NK English*"). The same year also experienced a decrease in harvested area, continuing a trend of decline from the previous five-year average, as reported by the FAO/WFP Joint Rapid Food Security Assessment.

The situation in 2019 was similarly dire. Satellite-derived indices and agroclimatic indicators from the USDA revealed below-average rainfall and drier-than-normal conditions across major growing regions, leading to unfavorable crop conditions and the lowest rice production in a

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<sup>424</sup> Ibid.

<sup>425</sup> Ibid.

<sup>426</sup> Ibid.

<sup>427</sup> Bir C. Mandal and Indrajit Roy, "Agricultural Production Situation in DPR Korea: 2020." March 2020. *Food and Agriculture Organization in DPR*. [https://www.fao.org/uploads/media/Crop\\_Production\\_in\\_2020\\_in\\_DPRK\\_narrative\\_report\\_revised\\_020421\\_01.pdf](https://www.fao.org/uploads/media/Crop_Production_in_2020_in_DPRK_narrative_report_revised_020421_01.pdf).

<sup>428</sup> Ibid.

<sup>429</sup> Ibid.



decade.<sup>430</sup> Despite the challenges, there were still attempts to maintain grain output through the use of traditional agricultural techniques, albeit with a high degree of uncertainty and lack of on-the-ground validation of the data.

The food security scenario improved marginally in 2020, with the USDA forecasting a slight increase in corn production over the five-year average. However, rice yields remained significantly below this average despite a better cropping season indicated by satellite imagery and the absence of major crop pests or diseases. This favorable turn was reflected in surface soil moisture conditions and vegetative growth in the major rice and corn growing regions, particularly in western provinces like South Hwanghae and Pyongyang.<sup>431</sup> The balance of supply and demand, however, was still delicate, largely due to the ongoing impact of international sanctions and border closures related to the COVID-19 pandemic.

Overall, the Food Crop Supply/Demand Balance from 2018 to 2020 in North Korea fluctuated significantly. In 2018, the balance was challenged by inadequate agricultural inputs and extreme weather conditions. The following year saw continued struggles with drought, impacting both irrigation water availability and crop yields. By 2020, while the situation showed signs of recovery, the data indicates that the balance was not fully restored, and the agricultural sector continued to face the prospect of food shortages.

The period from 2018 to 2020 in North Korea was marked by a tapestry of factors impacting food security. The vulnerability of the agrarian system to policy and external forces was pronounced, creating an environment where food availability was as much a product of governance as it was of agriculture.

In North Korea, the pursuit of self-reliance in food has been a key policy objective, underpinning decisions and shaping the agricultural landscape. Despite efforts to maximize output through extensive use of industrial inputs, challenges persisted. According to the FAO/WFP Joint Rapid Food Security Assessment 2019, the reliance on imported oil for fertilizer production and the importation of fertilizers primarily from China highlighted the vulnerability of the country's agricultural system to global market conditions and diplomatic rifts. The need to resolve food insecurity was not just a local issue but became a strategic one as well, deeply entangled with international relations and sanctions regimes.<sup>432</sup> The period saw North Korea grappling with the ramifications of climate irregularities. According to satellite imagery assessments and corroborating NGO reports, flooding and unfavorable weather patterns exacerbated food shortages, particularly in regions such as North and South Hamgyong provinces.<sup>433</sup>

The food supply/demand balance during these years was influenced by socio-economic dimensions. The FAO/WFP Joint Rapid Food Security Assessment 2019 highlighted that food

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<sup>430</sup> Dath Mita, "Commodity Intelligence Report: North Korea – Early and Mid-Season Dryness Increases Food Productivity Concerns." US Foreign Agriculture Service. USDA. July 22, 2019. <https://ipad.fas.usda.gov/highlights/2019/07/northkorea/index.pdf>.

<sup>431</sup> Dath Mita, "NORTH KOREA 2020/21 RICE AND CORN OUTLOOK." US Foreign Agriculture Service. USDA. August 24, 2020. <https://ipad.fas.usda.gov/highlights/2020/08/NorthKorea/index.pdf>.

<sup>432</sup> Marcus Noland, "North Korea as a complex humanitarian emergency: Assessing food insecurity," *Asia and the Global Economy*, Volume 2, Issue 3, 2022, ISSN 2667-1115, <https://doi.org/10.1016/j.aglobe.2022.100049>.

<sup>433</sup> Katsuhisa Furukawa et al., "Assessment of the Impact of August 2021 Rainfall and Flooding in the DPRK." *Open Nuclear Network*. September 2021. <https://opennuclear.org/sites/default/files/documents/publications/DPRK%20flooding-Sep%202021-compressed.pdf>

sources varied across household types, with a significant portion of the population reliant on the Public Distribution System (PDS), private markets, and kitchen gardens. The PDS-dependent population, which included government workers and pensioners, faced sharp reductions in rations, impacting food availability and leading to a reliance on alternative sources such as markets.<sup>434</sup>

Stockholding and storage infrastructure faced challenges, with reports indicating difficulties in preserving food, particularly during the summer months, leading to post-harvest losses.<sup>435</sup> The inadequacy in infrastructure was a reflection of broader systemic issues within the North Korean agricultural framework.

The 2018-2020 period reflects the preceding international dynamics, of continued humanitarian engagements interwoven with nuclear talks. The interplay between the need for humanitarian aid and strategic diplomatic relations was evident through the 2000s, as food aid was repeatedly used by the United States to encourage North Korean participation in nuclear negotiations.<sup>436</sup> However, the leverage conferred by aid was uncertain, with North Korea's chronic food insecurity necessitating a resolution that would involve a fundamental shift in the regime's domestic and foreign policy commitments.

Between 2018 and 2020, North Korea's food security and vulnerability were contingent upon a complex interplay of domestic policy choices, environmental challenges, socio-economic factors, and the global geopolitical climate. The situation underscored the multifaceted nature of food insecurity, requiring comprehensive measures that go beyond agricultural intervention to systemic change within the country's political-economic sphere.

#### **Section 4.7: Agricultural Production Dynamics in North Korea After the Pandemic (2021-2024)**

In the wake of the COVID-19 pandemic, North Korean agriculture has navigated through a phase marked by both resilience and fragility. Despite the commendable progress in some agricultural sectors, the country faces significant challenges that impede its ability to achieve food security. Data and observations from a multitude of sources, including the USDA Seasonal Crop Outlook and various academic assessments, outline a complex agricultural landscape from 2021 to 2024.

The period commenced with positive signals; the USDA's "North Korea MY 2023/24 Seasonal Crop Outlook" reported a favorable start to the growing season with adequate soil moisture and beneficial rainfall patterns. The forecasted yields for staple crops like rice and corn were poised to meet, if not exceed, average expectations, suggesting an alleviation of immediate food security concerns.<sup>437</sup> However, a deeper analysis indicated that such optimistic yield forecasts were

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<sup>434</sup> Mario Zappacosta et al., "Democratic People's Republic of Korea FAO/WFP Joint Rapid Food Security Assessment."

<sup>435</sup> Stephan Haggard and Marcus Noland, "Financial Cooperation with North Korea: Modalities and Risks." 2011. 10.1007/978-1-4419-9657-2\_10.

<sup>436</sup> Ibid.

<sup>437</sup> Dath Mita, "North Korea MY 2023/24 Seasonal Crop Outlook." US Foreign Agriculture Service. USDA. August 29, 2023. <https://ipad.fas.usda.gov/highlights/2023/08/NorthKorea/index.pdf>.

threatened by ongoing issues, notably the limited capacity to import agricultural inputs due to economic sanctions and COVID-19 border restrictions.

Amidst favorable climatic conditions, the nation continued to grapple with the aftershocks of the pandemic. Academic studies illustrate a deteriorating food availability scenario, exacerbated by self-imposed isolation and the ripple effects of the Ukraine conflict on global food prices. These compounded pressures signaled a troubling trajectory for food security, with concerns of shortages looming over the population, much like the shadows of the 1990s famine.<sup>438</sup> This era also saw an emergence of certain crops, such as potatoes, becoming more central to the nation's food strategy, as noted by the USDA.

As North Korea strived to enhance its domestic agricultural output, the strategic implications of its food system became increasingly significant. Efforts towards self-sufficiency and the expansion of cultivated land, as outlined in the USDA reports, were juxtaposed against the backdrop of stringent trade barriers, sanctions, and logistical challenges. The intricacies of these factors were not merely internal but spanned the geopolitical landscape, influencing trade relationships and international aid dynamics.

## **Total Planted Area and Crop Production**

### *Maize*

Maize production in North Korea continues to be a crucial component of the nation's agricultural strategy. The USDA's forecast for the 2023/24 marketing year predicts a corn production of 2.3 million tons, aligning closely with the long-term average yield of approximately 3.93 tons per hectare.<sup>439</sup> These projections incorporate advanced satellite-based observations which include the Normalized Difference Vegetation Index (NDVI) assessments, reflecting robust soil moisture conditions and plant growth across the primary maize growing regions.

Notably, the NDVI time series for critical provinces like Pyongan-bukto and Hwanghae-namdo, which collectively contribute significantly to national maize output, suggests that the 2023 crop conditions are favorable when compared to historical averages.<sup>440</sup> The favorable indications from NDVI analysis during June and July—the most critical months for maize development—suggest that vegetation conditions are better than the previous year, enhancing prospects for a productive harvest.

Moreover, the seasonal rainfall outlook, based on various agro-climatological sources, has been favorable, which is crucial for maize which is predominantly rain-fed in North Korea. While there is some variation in crop conditions within the country's different agricultural regions, the western cropping areas, in particular, have shown potential for above-average crop outcomes due to positive moisture and rainfall conditions.

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<sup>438</sup> Marcus Noland, "North Korea as a complex humanitarian emergency: Assessing food insecurity."

<sup>439</sup> Dath Mita, "North Korea MY 2022/23 Seasonal Crop Outlook." US Foreign Agriculture Service. USDA. September 28, 2022. <https://ipad.fas.usda.gov/highlights/2022/09/NorthKorea/index.pdf> and Dath Mita, "North Korea MY 2023/24 Seasonal Crop Outlook."

<sup>440</sup> Ibid.

However, challenges persist. The central and northeastern regions of North Korea show potential risks for below-average yields. These disparities underscore the variability in agricultural success across different regions, influenced by local climatic conditions and possibly the availability of agricultural inputs, which remain a significant concern due to ongoing international sanctions and internal resource limitations.

The USDA's consistent forecast for the 2022/23 and 2023/24 marketing years at 2.3 million tons emphasizes the stabilizing trend in North Korea's maize production.<sup>441</sup> Yet, it also highlights the delicate balance required to maintain these production levels amid fluctuating environmental conditions and the critical need for timely and adequate agricultural inputs to sustain crop health and yields. This balancing act is essential for ensuring food security and managing the agricultural sector's response to both domestic and external pressures.

#### *Rice (Paddy)*

Rice is pivotal in North Korea, predominantly grown in regions designated as the "cereal bowl," including South Hwanghae and Pyongan provinces. The area cultivated for rice has expanded, often into less fertile regions, impacting overall yield per hectare. Despite these expansions, the USDA highlighted a consistent production level of 2.1 million tons, although the yield remains below the five-year average due to the usage of marginal lands and difficulties in accessing quality inputs like fertilizers.<sup>442</sup>

#### *Potatoes*

Recognized increasingly as a critical food source, the cultivation of potatoes has expanded. These developments signify a shift in dietary staples, possibly due to their adaptability to various climatic conditions and the government's push to diversify the agricultural base. Recent reports suggest an uptick in potato production, aided by the introduction of new farming techniques and varieties, aiming to bolster food security amidst economic sanctions and import restrictions.<sup>443</sup>

#### *Soybeans*

Soybean production has fluctuated, influenced by both domestic policies and international sanctions that affect the availability of agricultural inputs. Efforts to boost soybean output are part of a broader strategy to enhance self-sufficiency in essential proteins and oils. However, challenges remain, such as limited suitable land and the need for quality seeds, which are compounded by restrictive import policies affecting agricultural advancements.<sup>444</sup>

#### *Wheat and Barley*

Wheat and barley, primarily winter crops, contribute minimally to the total agricultural output but are vital for crop rotation and soil health. The production of these grains is less highlighted in state reports but plays a crucial role in maintaining biodiversity and providing crop alternatives

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<sup>441</sup> Ibid.

<sup>442</sup> Ibid.

<sup>443</sup> Marcus Noland, "North Korea as a complex humanitarian emergency: Assessing food insecurity."

<sup>444</sup> Dath Mita, "North Korea MY 2023/24 Seasonal Crop Outlook."

in adverse weather conditions. Initiatives to expand these crops have been tempered by the same challenges that face other sectors: input shortages and technical limitations.<sup>445</sup>

### *Perspectives on the Ground*

The past few years have showcased a palpable struggle in North Korea's agricultural sector, affected by both policy decisions and natural phenomena. North Korean authorities have taken drastic steps such as abolishing "hidden fields," which were small personal or community plots cultivated independently by farmers. This measure, purportedly aimed at agricultural efficiency, has instead stoked fears of exacerbated food shortages among the population, as these plots were a crucial supplement to state-provided rations.<sup>446</sup>

The recent admission by *Choson Sinbo*, a pro-North Korean newspaper, of a "food crisis" within North Korea reflects an acute awareness by Pyongyang of the severe food price fluctuations and a concerted effort to control them.<sup>447</sup> This explicit acknowledgment aligns with visible attempts to fortify the agricultural sector, as evidenced by the push towards expanding animal protein farming despite structural and practical challenges.<sup>448</sup> The country has strived to enhance its domestic capacity to produce protein, evident from the increasing number of showcase farms and facilities, although the sustainability of these operations remains unclear.<sup>449</sup>

Under Kim Jong Un's direction, there has been a heightened focus on various forms of animal husbandry.<sup>450</sup> Poultry has seen innovations applied to make farms like the Kwangchon Chicken Farm stand out as exemplary models capable of housing a significant number of livestock. The state media have highlighted these farms' modernization efforts, which are posited to contribute notably to feed production innovation.

Despite the optimistic portrayal by state media, assessing the actual performance of these farms is problematic due to the opacity in data reporting and the secretive nature of the regime. For example, satellite imagery shows expansion at several showcase and exemplar facilities and farms, but efforts to modernize or expand older farms are not as apparent. Moreover, the raising of livestock, particularly chickens, has seen innovative applications aimed at making operations like the Kwangchon Chicken Farm a showcase for the industry, capable of housing up to 170,000 chickens.<sup>451</sup> However, the actual impact on food security remains to be accurately determined without on-the-ground data. Concurrently, North Korea has witnessed the perishing of over 100,000 livestock due to prolonged heat waves, underscoring the precarious balance of the country's food supply and the vulnerability of its agricultural systems to climate extremes.<sup>452</sup>

<sup>445</sup> Ibid.

<sup>446</sup> "Order to Abolish All 'Hidden Fields': Farmers Fear Starvation as Ban Begins." Rimjin Gang, *Asia Press*. <https://www.asiapress.org/rimjin-gang/2021/05/society-economy/sotoji/#:~:text=The%20North%20Korean%20authorities%20have,%2Dwon%20%2F%20ISHIMARU%20Jiro>.

<sup>447</sup> Rachel Minyoung Lee, "Pro-North Korea Paper Acknowledges 'Food Crisis,'" *38 North*, July 8, 2021, <https://www.38north.org/2021/07/pyongyang-indirectly-acknowledges-food-crisis/>.

<sup>448</sup> Iliana Ragnone et al, "North Korea's Animal Protein Farming: Expansion Status and Challenges." *38 North*. September 20, 2023. <https://www.38north.org/2023/09/north-koreas-animal-protein-farming-expansion-status-and-challenges-2/>

<sup>449</sup> Ibid.

<sup>450</sup> Ibid.

<sup>451</sup> Ibid.

<sup>452</sup> Seulkee Jang, "More than 100,000 Livestock Perish amid Continued Heat Waves in North Korea." *Daily NK*, August 19, 2021. <https://www.dailynk.com/english/more-than-100000-livestock-perish-amid-continued-heat-waves-north-korea/>



Efforts to mitigate these challenges include the establishment of new greenhouses in rural areas. However, these facilities primarily cater to state needs rather than local consumption, underscoring a centralized approach to food production that may not necessarily align with the immediate needs of the rural populace.<sup>453</sup>

Given these dynamics, international humanitarian organizations may encounter challenges previously experienced during the 1990s famine. A reversion to a state-centric distribution system could complicate aid effectiveness and potentially exacerbate food insecurity if political considerations overshadow equitable distribution. Therefore, contingency planning and the development of robust mechanisms to ensure transparency and accountability in aid distribution become imperative for any future engagement with North Korea.

The strategic implications of North Korea's agricultural policies and production trends are profound. The state's approach to managing agricultural production, heavily influenced by political and economic factors, underscores a complex interplay between self-sufficiency goals and the pragmatic need to mitigate food insecurity risks. The reliance on traditional crops like rice and maize, coupled with efforts to expand into other staples such as potatoes and soybeans, illustrates an adaptive strategy to cope with both sanctions and the changing global economic landscape. However, the persistent issues with input shortages and the impact of international sanctions suggest that achieving significant gains in agricultural output may require more than just expanding planted areas; it necessitates a holistic approach that includes improving agricultural practices, enhancing input quality, and possibly reforming economic policies to better integrate with the global market.

### **Grain Balances and Caloric Intake: Competing Malthusian and Sen Perspectives**

Analyzing North Korea's food security through the theoretical lenses of Malthus' *Essay on the Principle of Population* and Sen's insights from *Poverty and Famine* provides a nuanced understanding of the complex issue. Malthus proposed that population growth potentially outpaces food production, potentially leading to overpopulation and famine, focusing on the physical availability of food as the core issue. Sen, however, argued that famine could occur without significant drops in food production, highlighting the roles of distribution mechanisms and access to food by discrete socio-economic groups. This perspective points to how these disparities and policy failures can cause famine, regardless of food availability.

In North Korea, these theories reveal unique challenges due to the country's secretive management of its food supply. Food balance sheets from the FAO for the 2020/21 marketing year present a structured method to assess food security, detailing domestic availability, utilization, and import requirements. However, the accuracy of these sheets is debatable due to the potential inaccuracies in North Korea's reported data.

According to the FAO, North Korea is significantly dependent on food imports and aid, hinting at substantial food deficits. Yet, Marcus Noland (2022) criticizes the reliability of these data,

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<sup>453</sup> Chang Gyu Ahn, "New Greenhouses in Rural North Korea Grow Tons of Vegetables, Just Not for Locals." *Radio Free Asia*. March 2, 2022. <https://www.rfa.org/english/news/korea/veggies-03022022182230.html#:~:text=A%20North%20Korean%20greenhouse%20project,country's%20elites%2C%20sources%20told%20RFA.>



suggesting that the real dietary needs might be lower than reported due to overstated assumptions about caloric needs and nutritional composition.<sup>454</sup> Noland also points out discrepancies between the FAO's data and those from other sources like the USDA and the South Korean Rural Development Administration (KRDA), which use satellite imagery and other methods to estimate agricultural output, showing possible overestimations by the FAO influenced by North Korean data. This complexity is compounded by North Korea's limited cooperation with international agencies, adding layers of difficulty in accurately assessing the country's food security state and complicating international aid efforts. Furthermore, the secrecy surrounding its agricultural data exacerbates these challenges, necessitating a cautious interpretation of available data.

	Rice (milled) <sup>1/</sup>	Maize	Wheat and barley	Other cereals	Potatoes <sup>2/</sup>	Soybeans <sup>3/</sup>	TOTAL
<b>Domestic availability</b>	<b>1 395</b>	<b>2 214</b>	<b>146</b>	<b>161</b>	<b>697</b>	<b>276</b>	<b>4 889</b>
Main season production	1 395	2 214	-	161	377	276	4 423
Winter/spring production	-	-	146	-	320	-	466
<b>Total utilization</b>	<b>1 930</b>	<b>2 636</b>	<b>252</b>	<b>161</b>	<b>697</b>	<b>276</b>	<b>5 952</b>
Food use	1 605	1 954	207	124	413	238	4 541
Feed use	-	137	-	-	38	-	175
Seed requirements	46	58	14	13	72	10	213
Post-harvest losses	279	487	31	24	174	28	1 023
Stock build-up	0	0	0	0	0	0	0
<b>Import requirements</b>	<b>535</b>	<b>407</b>	<b>106</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1 063</b>
Anticipated commercial imports	-	-	-	-	-	-	205
Uncovered deficit	-	-	-	-	-	-	858

Source: MoA, 2021.

Note: Figures may not add up due to rounding.

<sup>1/</sup> Paddy to rice milling rate of 66 percent.

<sup>2/</sup> Potatoes in cereal equivalent at 0.25 percent conversion rate.

<sup>3/</sup> Soybeans in cereal equivalent at 1.2 percent conversion rate.

**Table 6: Democratic People's Republic of Korea - Food balance sheet for 2020/21 marketing year, November/October (000 tonnes), FAO<sup>455</sup>**

Accounts of the caloric needs in North Korea, significantly influenced by its cold climate, vary considerably. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) provides a population estimate for mid-year 2021 at 25.9 million, a critical figure in calculating

<sup>454</sup> Marcus Noland, "North Korea as a complex humanitarian emergency: Assessing food insecurity."

<sup>455</sup> FAO, "GIEWS Update - The Democratic People's Republic of Korea Food Supply and Demand Outlook in 2020/21 (November/October)." Food and Agriculture Organization of the United Nations. June 14, 2021. <https://openknowledge.fao.org/server/api/core/bitstreams/76eda020-91e4-43f9-8d7a-a3e91e6ce688/content>.

national food requirements.<sup>456</sup> The FAO estimates North Korea's consumption at approximately 175 kilograms per capita annually, consisting of cereals, potatoes, and soybeans.<sup>457</sup> This translates into a daily intake of about 480 grams per capita, equating to roughly 1,700 kilocalories per person per day.<sup>458</sup> This rate is meant to align with the apparent per capita national consumption observed over the past five years, according to data from the cereal balance sheets of the Global Information and Early Warning System on Food and Agriculture (GIEWS).

These estimates assume the balance of energy and nutrients is supplemented by other foods like vegetables, fish, eggs, meat, and milk. The breakdown of the consumption includes 62 kilograms of milled rice, 75.5 kilograms of maize, 8 kilograms of wheat and barley, 4.8 kilograms of other cereals, 16.1 kilograms of potatoes, and 9.2 kilograms of soybeans (both latter in cereal equivalent), per person per year. This detailed breakdown helps in aligning the available food with the estimated needs based on current market year availability, ensuring a zero balance for non-traded commodities.<sup>459</sup>

Contrasting these current estimates, Heather Smith (1998) provides a historical account indicating that the actual consumption of rice and maize has historically been much lower than international agencies have assumed.<sup>460</sup> According to Smith, these cereals' role in the North Korean diet is overstated by about 20 percent, suggesting that the dietary reliance is broader and includes a more diverse set of cereals and crops.<sup>461</sup> Initially, the United Nations estimated the annual cereal needs at 167 kilograms per person, which was later adjusted to 174 kilograms in 2010/11 with the inclusion of 7 kilograms of soybeans.<sup>462</sup> This figure was increased to 175 kilograms in 2015/16, detailed as 151.3 kilograms of cereals (including 58 kilograms of milled rice, 81.8 kilograms of maize, 6.2 kilograms of wheat and barley, 5.3 kilograms of other cereals) plus 13.4 kilograms of potatoes and 10 kilograms of soybeans in cereal equivalent form.<sup>463</sup> These adjustments reflect changes in crop production and are indicative of a dietary pattern that relies less on rice and more on other cereals and crops, aligning with shifts in agricultural output and nutritional strategy updates. Noland highlights the importance of these divergent estimates and the implications they have on assessing food security and planning interventions. The discrepancy in cereal consumption figures points to a potential overestimation of food insecurity if based solely on standard international assessments without considering localized consumption patterns and crop diversity.<sup>464</sup>

Noland's critique of FAO data offers a compelling adjusted perspective on North Korea's grain balance, which suggests that the food security situation, while precarious, may not be as dire as

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<sup>456</sup> Ibid.

<sup>457</sup> Ibid.

<sup>458</sup> Ibid.

<sup>459</sup> Ibid.

<sup>460</sup> Heather Smith, "The Food Economy: Catalyst for Collapse?" In *Economic Integration of the Korean Peninsula*, ed. Marcus Noland. Washington, DC: Institute for International Economics, 1998.

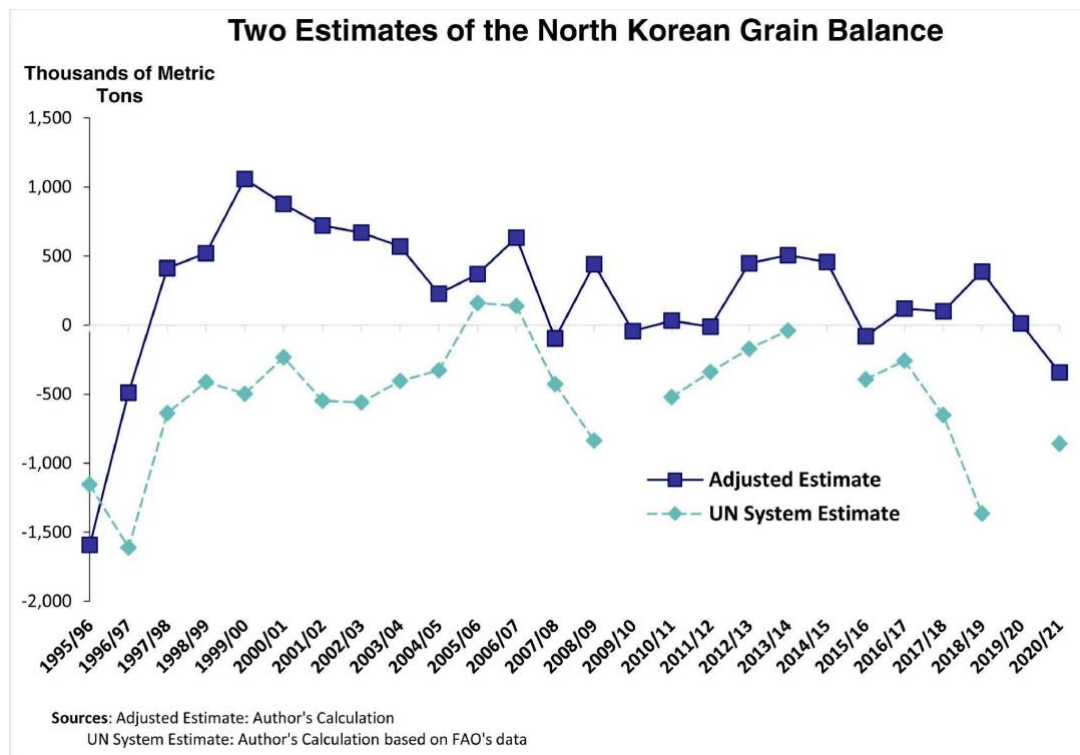
<sup>461</sup> Ibid.

<sup>462</sup> Marcus Noland, "North Korea as a complex humanitarian emergency: Assessing food insecurity."

<sup>463</sup> Ibid.

<sup>464</sup> Ibid.

indicated by the standard estimates. According to Noland, the discrepancies between the adjusted estimates and the FAO's figures are critical for understanding the real state of food security in North Korea. For example, his analysis shows that the very large food deficits recorded during the mid-1990s famine were followed by a modest recovery and small surpluses which contradicts the continuous dire predictions based on FAO's data.<sup>465</sup>



**Table 7: Competing Estimates of North Korean Grain Balances, Noland (2022)**

Noland's adjusted estimates suggest a different narrative post-2005, where, unlike the FAO's more constant portrayal of deficits, his analysis indicates periods of modest recovery and even small surpluses in North Korea's grain balance. This reveals a more nuanced situation than the continuous food insecurity suggested by standard FAO projections.<sup>466</sup> The 2020–21 cycle did see a setback, with food supplies dipping again, reminiscent of the 1990s famine conditions, exacerbated by factors such as inadequate water supply affecting crucial winter and spring crops. Furthermore, the disruptions caused by the COVID-19 pandemic have compounded these challenges, severely impacting farming activities and stressing an already vulnerable agricultural system.

The analysis of food balance sheets, while methodologically sound, faces significant challenges in the context of North Korea due to data inaccuracy, political manipulation, and the secretive nature of the regime. These challenges necessitate a cautious approach in interpreting these data,

<sup>465</sup> Ibid.

<sup>466</sup> Ibid.

with a greater emphasis on understanding local food access and distribution mechanisms to truly assess food security. The differing perspectives on caloric needs and the actual consumption of various food items further complicate the direct application of Malthusian and Senian frameworks to North Korea, suggesting a need for a more nuanced approach that considers both food availability and accessibility within the country's unique socio-political context.

## Section 5: The Politics of Food Security

### Section 5.1: The Domestic Politics of Food

Between 2018-2024, the government's response to the ongoing food insecurity has been heavily influenced by the Juche ideology and its desire to maintain power. This section will explore how North Korean leadership has strategically restricted food assistance and controlled food distribution to prevent domestic unrest and strengthen its authoritarian grip, despite the severity of the food insecurity.

#### *Ideology & Political Power*

The refined Juche ideology, emphasizing self-reliance and self-development, has been a cornerstone of Kim Jong Un's political and ideological foundation. However, growing indicators of food insecurity (partly due to the COVID-19 pandemic) have challenged this concept. This has resulted in his regime increasing state intervention, propaganda, and ideological education to maintain control and support for the Kim family.

Juche has been landing a political and ideological foundation for the North Korean regime to mobilize the support it needs to maintain the state's survival. Juche is the idea of self-reliance in every aspect of state affairs, from food production to military modernization. Kim Il Sung is credited with developing Juche while leading Korean guerrillas against Japanese colonizers, and Kim Jong Il is said to have systemized the concept.<sup>467</sup> The idea was so deeply ingrained in North Korean regime that it influenced agricultural practices that resulted in low productivity of crops and the scarce availability of food in the early 1990s. Under the current ruler, Kim Jong-un, North Korea adopted a refined version of Juche to institutionalize “self-reliance and self-development.”<sup>468</sup>

Earlier this year, Kim Jong Un also admitted the state's failure to provide people with food and called it a serious political issue.<sup>469</sup> Kim Jong Un's acknowledgment of the food security situation and his stated commitment to address it are noteworthy, as they suggest that the issue become severe. In his 2021 speech to the Worker's Party of Korea (WPK), Kim Jong Un was quoted as the following: “I made up my mind to ask the WPK organizations at all levels, including its Central Committee and the cell secretaries of the entire party, to wage another more

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<sup>467</sup> Foster Klug, “Juche Rules North Korean Propaganda, but What Does It Mean?,” *AP News*, September 30, 2019. <https://apnews.com/general-news-d63d00ce9de042dc88b9df2c40be53ee>.

<sup>468</sup> Ibid.

<sup>469</sup> Hyunsu Yim, “North Korea's Kim Warns Failure to Provide Food a ‘Serious Political Issue,’” *Reuters*, January 25, 2024, sec. Asia Pacific, <https://www.reuters.com/world/asia-pacific/north-koreas-kim-warns-failure-provide-food-serious-political-issue-2024-01-25/>.

difficult 'arduous march' in order to relieve our people of the difficulty, even a little.”<sup>470</sup> Calling the citizens to prepare for an arduous march was the term his grandfather used during the 1990s famine, which also signified the obstacles that this country faced.

Simultaneously, the North Korean regime increased propaganda to maintain the primacy of Juche. There was a change in terminology that suggests a deliberate attempt to downplay the severity of the situation and maintain the illusion of self-reliance and self-sufficiency, which are core tenets of the Juche. In 2021, state media used “food crisis” to describe the food situation in the country but two years later, the narrative changed to simply calling the problem “farm issues.”<sup>471</sup> The official narrative also passed the buck to local officials who failed to comply with order from the central committee.<sup>472</sup>

North Korea also increased the frequency of lectures to eliminate the so-called non-socialist and anti-socialist acts – all to ensure that North Korean people remained under control of the regime.<sup>473</sup> At the same time, ideological education on the greatness of Kim Jong Un among worker groups was extended from one hour to two and the press increased reporting Kim’s activities to show his greatness at the workplace.<sup>474</sup>

In addition, Kim Jong Un significantly increased his public appearances and intensified ideological education efforts to reassure the population and maintain control amid the worsening food crisis in North Korea. According to the Korea Institute for National Unification (KINU), North Korean leader Kim Jong Un and three key officials significantly increased their public activities by 50 percent (between December 2023 to February 2024) compared to the previous three-year average, largely due to the subsiding COVID-19 pandemic.<sup>475</sup> Reports reveal that North Korean leader Kim Jong Un participated in 31 public engagements over the past three months, marking a significant 31 percent increase compared to the average of 23.7 activities recorded during the same period in the previous three years.<sup>476</sup> The surge in public activities could also be a sign of Kim’s efforts to reassure the population and maintain control amid growing concerns over the food shortage situation.

### **Preventing Unrest Through Food Control**

North Korea's agricultural reforms and the failure of the public distribution system (PDS) have intensified the government's efforts to control the population. While early 2010s reforms aimed to increase food production through farmer autonomy, recent measures have prioritized state

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<sup>470</sup> Scott Neuman, “North Korea’s Kim Alludes To 1990s Famine, Warns Of ‘Difficulties Ahead Of Us.’” *NPR*. April 9, 2021. <https://www.npr.org/2021/04/09/985743058/north-koreas-kim-alludes-to-1990s-famine-warns-of-difficulties-ahead-of-us>.

<sup>471</sup> Rachel Minyoung Lee, “Pro-North Korea Paper Acknowledges ‘Food Crisis.’”

<sup>472</sup> Colin Zwirko, “Kim Jong Un Calls for Stronger Party Control to Solve Nation’s Food Problems | NK News,” *NK News - North Korea News*, March 2, 2023, <https://www.nknews.org/2023/03/kim-jong-un-calls-for-stronger-party-control-to-solve-nations-food-problems/>.

<sup>473</sup> Chae Eun Lee, “North Korea Holds Lecture in Border Region Highlighting Need to Eliminate Anti-Socialist Acts,” *Daily NK English* (blog), March 17, 2021, <https://www.dailynk.com/english/north-korea-holds-lecture-border-region-highlighting-need-eliminate-anti-socialist-acts/?tztc=1>.

<sup>474</sup> Chae Hwan Kim, “N. Korea Intensifies Education on Greatness of Kim Jong Un,” *Daily NK English* (blog), September 19, 2022, <https://www.dailynk.com/english/north-korea-intensifies-education-greatness-kim-jong-un/>.

<sup>475</sup> Soo-Yeon Kim, “Public Activities of N. Korean Leader, Key Officials Jump 50 Pct: Report,” *Yonhap News Agency*, March 6, 2024, <https://en.yna.co.kr/view/AEN20240306005200315>.

<sup>476</sup> Ibid.



control over agriculture and distribution. As the PDS has become ineffective, the government has resorted to establishing state-run food shops, suppressing private markets, and selectively distributing resources based on loyalty to reinforce the regime's power and maintain the population's dependence.

### *The Agricultural Reforms*

The agricultural reforms in North Korea during the 2010s and 2020s, while ostensibly aimed at increasing food production, have primarily served to reinforce the government's control over the population. While the "6.28 measures" of 2012 aimed to boost food production by granting farmers more autonomy, recent reforms have focused on tightening state control over agriculture and food distribution.<sup>477</sup> In this regard, the North Korean regime exploited these reforms to reinforce its power, exacerbating the country's food crisis by setting unrealistic production targets, suppressing private markets, and limiting genuine support for farmers.

While the agricultural reforms of the early 2010s and those of the 2020s both aimed to boost food production, their approaches and priorities differ significantly. The "6.28 measures" of 2012 sought to grant farmers more autonomy and incentives to increase productivity, while the reforms in early 2020s focused on strengthening the government's control over the food supply. This shift in policy reveals that the regime prioritizes power and stability over the well-being of the North Korean people.

The "6.28 measures" included reducing the size of cooperative farms, allowing farmers to keep a larger portion of their harvest, and permitting the sale of surplus produce in markets. These reforms were designed to incentivize farmers to increase their productivity by granting them more autonomy and a greater stake in the fruits of their labor.<sup>478</sup> The government also introduced the "pojon" (plot) system, which allocated small plots of land to individual households for private cultivation.<sup>479</sup>

In contrast, the agricultural reforms of the 2020s have focused more on strengthening the government's control over food production and distribution. While measures like the 2019 Individual Field Responsibility System may seem to grant more autonomy to farmers, subsequent amendments to the Agricultural Law in 2021 and 2022 indicated further government control.<sup>480</sup> The individual field management system was originally introduced in North Pyongan Province and then expanded the system to several regions in Ryanggang Province.<sup>481</sup> Under the system, each farmer is given around 991 to 1650 square meters (1083 yards to 1804 yards) of land and take complete responsibility for the entire farming process.<sup>482</sup> On a trial basis, the

<sup>477</sup> Sang Yong Lee, "North Korea's Agricultural Policies: Embracing a Chinese Model for Increased Productivity?" *38 North*, March 6, 2024, <https://www.38north.org/2024/03/north-koreas-agricultural-policies-embracing-a-chinese-model-for-increased-productivity/>.

<sup>478</sup> Randall Ireson, "DPRK Agricultural Policy." *38 North*. January 27, 2015. <https://www.38north.org/2015/01/ireson012715/>.

<sup>479</sup> Ibid.

<sup>480</sup> Dong Hui Mun, "N. Korea's Amended Agriculture Law Strengthens Role of Individual Farmers in Sub-Workteams," *Daily NK English* (blog), October 5, 2023, <https://www.dailynk.com/english/n-koreas-amended-agriculture-law-strengthens-role-of-individual-farmers-in-sub-workteams/>.

<sup>481</sup> Yoo Jin Kim, "New North Korean Agricultural System Yields Promising Results," *Daily NK English* (blog), October 16, 2020, <https://www.dailynk.com/english/north-koreas-new-agricultural-system-yields-promising-results/#:~:text=An%20agricultural%20system%20recently%20implemented,Daily%20NK%20sources%20have%20reported.>

<sup>482</sup> Ibid.



system allowed private individuals to cultivate land independently, which led to partial improvements in productivity as it provided farmers with a degree of autonomy and incentive to increase their yields.<sup>483</sup>

Furthermore, the most recent amendment to the Farm Law in September 2023 further reinforced this control, including plans to increase government management and oversight. This followed the August 2023 amendment, which also augmented government oversight and control.<sup>484</sup> *DailyNK* reported that the reform integrated the Individual Contract Work System into the existing sub-workteam management system to increase food production by clearly defined individual roles and responsibilities.<sup>485</sup> Although it looks like the North Korean government took steps to improve food production, there was a hidden agenda behind the amendment. This amendment not only facilitates easier monitoring of individuals and their performance, but also enables the regime to exert close supervision over agricultural activities. This ensures that state directives are strictly followed and productivity targets are met.

These reforms also appear to be part of the "new era" policy promoted by the regime since 2022, which aims to implement rural revolution and development.<sup>486</sup> However, the lack of discussion surrounding the Farm Responsibility Management System, an important institutional mechanism for increasing agricultural productivity, suggests that the government's true priority is not to improve food production but rather to maintain control over the population.<sup>487</sup> In addition, the regime began to force market vendors to register their businesses which further demonstrates the regime's desire to tighten control over food distribution and other essential resources.<sup>488</sup> By restricting private dealings at markets and attempting to supply grain via state-run facilities, the government has exacerbated the country's food crisis.<sup>489</sup>

In 2021 and 2022, amendments to the Agricultural Law emphasized the collective nature of farms and the government's control over agricultural output. To reinforce the "collective" aspect of farms, North Korea amended its Agricultural Law in 2021, redefining farms as "socialist agricultural enterprises." Furthermore, the 2022 amendments to the Agricultural Law placed greater emphasis on the responsibilities of collective farms, such as meeting anticipated crop yields and completing obligatory grain purchase plans set by the government.<sup>490</sup> These legal changes underscore the state's desire to maintain tight control over agricultural production and distribution. These amendments aimed to limit the potential for private ownership and maintained a firm grip on the country's food production.

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<sup>483</sup> Dong Hui Mun, "N. Korea's Amended Agriculture Law Strengthens Role of Individual Farmers in Sub-Workteams."

<sup>484</sup> Sang Yong Lee, "North Korea's Agricultural Policies: Embracing a Chinese Model for Increased Productivity?"

<sup>485</sup> Dong Hui Mun, "N. Korea's Amended Agriculture Law Strengthens Role of Individual Farmers in Sub-Workteams."

<sup>486</sup> Maria Siow, "North Korea's Farming Reform Push Unlikely to Ease Food Shortage, Analysts Say," *South China Morning Post*, March 20, 2023, <https://www.scmp.com/week-asia/politics/article/3214162/north-koreas-farming-reform-push-unlikely-ease-food-shortage-analysts-say>.

<sup>487</sup> Ibid.

<sup>488</sup> Sang Yong Lee, "North Korea's Agricultural Policies: Embracing a Chinese Model for Increased Productivity?"

<sup>489</sup> Hyung-Jin Kim and Tong-Hyung Kim, "N. Korea Wants More Control over Farming amid Food Shortage," *AP News*, March 2, 2023, <https://apnews.com/article/north-korea-food-shortage-kim-jong-un-350762f3d28144f8617e2c96af709eb8>.

<sup>490</sup> Sang Yong Lee, "North Korea's Agricultural Policies: Embracing a Chinese Model for Increased Productivity?"

Unfortunately, the recent agricultural reforms has become the regime's instrument to maintain control over North Korean people while sustaining the Kim family's power.

In this regard, one of the main strategies employed by the North Korean government is pressing for unrealistic increases in farm production.<sup>491</sup> By setting high targets for farmers without providing adequate resources or support, the government places the burden of food security on the population. This approach allows the government to shift the blame for any shortcomings onto the farmers themselves, rather than addressing the systemic issues in the agricultural sector. Moreover, the government's emphasis on self-reliance and increased production can be seen as a propaganda tool to project an image of strength and independence, while masking the reality of food insecurity.<sup>492</sup>

Another key aspect of the government's control over food distribution is the suppression of private markets. By conducting raids on markets and cracking down on private food sales, the government seeks to limit the population's access to alternative food sources and maintain their dependence on state-controlled systems.<sup>493</sup>

The implementation of agricultural reform measures, such as the "field responsibility system," has also faced significant obstacles.<sup>494</sup> While this system was intended to incentivize farmers by allowing them to keep a portion of their excess produce, its success has been limited by the government's tight control over resource allocation and the lack of proper support for farmers. Despite the challenges, the North Korean government has claimed promising results in some cases.<sup>495</sup> However, these claims should also be viewed as part of the government's propaganda efforts to project an image of success and stability. By presenting a narrative of agricultural progress, the government aims to bolster its legitimacy and prevent public discontent, even if the reality on the ground differs from the official statements.

### **The Failure of the Public Distribution System (PDS)**

The failure of North Korea's public distribution system (PDS) has led the government to employ various strategies to maintain control over the population and ensure loyalty to the Kim dynasty. These strategies include establishing state-run food shops, suppressing private market activities, selectively distributing resources through local district offices, and reclassifying the population's social status. With that said, the North Korean regime seeks to reinforce its power and maintain the population's dependence on the state.

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<sup>491</sup> Dong Hui Mun, "N. Korea Presses for Unrealistic Increases in Farm Production," *Daily NK English* (blog), January 29, 2020, <https://www.google.com/search?client=safari&rls=en&q=N.+Korea+Presses+for+Unrealistic+Increases+in+Farm+Production&ie=UTF-8&oe=UTF-8>.

<sup>492</sup> Seulkee Jang, "N. Koreans Criticize Government Calls for 'Self-Reliance,'" *Daily NK English* (blog), January 14, 2020, <https://www.dailynk.com/english/n-koreans-criticize-government-calls-for-self-reliance/>.

<sup>493</sup> Dong Hui Mun, "N. Korean Authorities Conduct Raids on Unofficial Markets," *Daily NK English* (blog), November 25, 2019, <https://www.dailynk.com/english/north-korean-authorities-conduct-raids-markets/>.

<sup>494</sup> Yoo Jin Kim, "Key North Korean Agricultural Reform Measure Faces Snags," *Daily NK English* (blog), November 4, 2019, <https://www.dailynk.com/english/key-north-korean-agricultural-reform-measure-faces-snags/>.

<sup>495</sup> Ibid.

In the 2010s, the Public Distribution System (PDS) in North Korea experienced a modest recovery, but its reach remained limited.<sup>496</sup>

One of the primary alternative food distribution methods is the state-run food shops. These shops were established to replace the PDS and provide food at lower prices than the markets.<sup>497</sup> The goal was to restore the socialist planned economy through state control over the sale of grains like rice and corn. In January 2021, North Korea established state-run food shops nationwide to restrict and control the price and distribution of food, providing grain at prices 20 to 30% lower than market prices.<sup>498</sup> According to multiple *DailyNK* reporting partners in North Korea, North Korea currently operates 286 food shops nationwide.<sup>499</sup> These new stores restrict consumers to buy no less than 10 kilograms or more of rice or corn. Moreover, the quality of rice is low and the selection is limited to only one variety.<sup>500</sup>

By controlling the distribution of food through these shops, the government aims to reduce the population's reliance on private markets and reassert its authority. However, the limited success of these shops due to insufficient stock, poor quality of goods, and low customer interest has forced the government to explore other means of control.<sup>501</sup> In 2021, based on reports from *Rimjin-gang*, North Korea's state-run food stores moved from selling goods "when they're in stock" to selling five kilograms of food per person once per month.<sup>502</sup>

The Kim regime has also attempted to suppress private market activities by intensifying crackdowns on street vendors<sup>503</sup> and rice wholesalers and resellers.<sup>504</sup> In early 2023, North Korea completely banned the selling of food in markets the state has also set up many guard posts in places where officials monitor for 'unlawful' food trade.<sup>505</sup> The North Korean government was also beginning to crack down on food wholesalers and resellers in South Hamgyong province as the government secured so little rice.<sup>506</sup>

<sup>496</sup> Hyemin Son, "North Korean County Leases Rationing Center to Wealthy Wholesaler," *Radio Free Asia*, August 24, 2020, <https://www.rfa.org/english/news/korea/rice-08242020192938.html>.

<sup>497</sup> Seulkee Jang, "N. Korea Operates More than 280 State-Run Food Shops Nationwide," *Daily NK English* (blog), May 5, 2023, <https://www.dailynk.com/english/north-korea-operates-more-than-280-state-run-food-shops-nationwide/>.

<sup>498</sup> Ibid.

<sup>499</sup> Ibid.

<sup>500</sup> Seulkee Jang, "North Korea Finally Opens State-Run Food Stores to Little Excitement among Consumers," *Daily NK English* (blog), June 2, 2021, <https://www.dailynk.com/english/north-korea-finally-opens-state-run-food-stores-little-excitement-among-consumers/>.

<sup>501</sup> Ibid.

<sup>502</sup> Jiro Ishimaru, "The Kim regime shifts its food policy, suppressing food sales in markets while creating a state monopoly on the food supply," *Rimjin-gang, Asia Press*, December 14, 2022, <https://www.asiapress.org/rimjin-gang/2022/12/society-economy/senbai/>.

<sup>503</sup> Chae Eun Lee, "Hoeryong Intensifies Crackdowns on Street Vendors," *Daily NK English*, June 23, 2023, <https://www.dailynk.com/english/hoeryong-intensifies-crackdowns-street-vendors/>.

<sup>504</sup> Chae Eun Lee, "N. Korea Intensifies Crackdowns on Rice Wholesalers and Resellers," *Daily NK English* (blog), January 19, 2023, <https://www.dailynk.com/english/north-korea-intensifies-crackdowns-rice-wholesalers-resellers/>.

<sup>505</sup> Min-ho Jung, "North Korea Tightens State Control of Food," *The Korea Times*, June 28, 2023, <https://www.koreatimes.co.kr/foreignaffairs/northkorea/20230628/north-korea-tightens-state-control-of-food>.

<sup>506</sup> Chae Eun Lee, "N. Korea Intensifies Crackdowns on Rice Wholesalers and Resellers."

In times of crisis, the government also resorted to utilizing the military's rice reserves.<sup>507</sup> This measure not only addresses immediate food shortages but also demonstrates the government's ability to mobilize resources and maintain control during challenging times. By prioritizing the distribution of food to loyal segments of the population, such as the military and those involved in state-sponsored projects, the Kim dynasty reinforces its power and rewards allegiance to the regime.

Besides controlling food distribution, the North Korean government is also employing a two-pronged approach to regain public loyalty and maintain control over the population: first, by selectively distributing resources through local district offices, and second, by reclassifying the population's social status (*Songbun*) to identify and target potentially disloyal segments of society, particularly the younger generation.

In 2017, the shift in responsibility for food distribution from defunct PDS centers to district offices represents another attempt by local authorities to regain public loyalty.<sup>508</sup> By selectively distributing "holiday gifts and special distributions" to individuals deemed loyal, the government creates an environment of competition and favoritism. This strategy encourages the population to demonstrate their loyalty to the state to receive preferential treatment and access to resources.

Furthermore, the North Korean government's efforts to reclassify the population's "*Songbun*" (social status) served as a means to identify and control potentially disloyal segments of the population, particularly the younger generation.<sup>509</sup> In early 2020, Kim Jong Un directed the Ministry of People's Security (MPS) to reclassify all citizens' "birth *Songbun*" and "social *Songbun*" to help officials swiftly assess the "ideological status" and "inclinations" of individuals North Koreans.<sup>510</sup> In the newly reclassified North Korean *Songbun* system, the government has placed a special emphasis on the younger "jangmadang generation." The North Korean government perceives this group as highly vulnerable to the influence of capitalism, which they refer to as "yellow winds."<sup>511</sup> The government believes that if left unchecked, the spread of capitalist ideas among the youth could potentially lead to a severe erosion of national solidarity and unity.<sup>512</sup>

According to sources from *DailyNK*, the *Songbun* system, as initially proposed by the MPS, consisted of 10 categories. However, Kim added two new categories: "ideologically wavering" and "complainers and discontents."<sup>513</sup> These newly added classifications represent the lowest

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<sup>507</sup> Yoo Jin Kim, "Facing Food Shortages, North Korean Authorities Tap Rice Reserves," *Daily NK English* (blog), September 9, 2019, <https://www.dailynk.com/english/north-korea-taps-rice-reserves/>.

<sup>508</sup> "Public Distribution System Shifted to District Offices," *Daily NK English* (blog), October 16, 2017, <https://www.dailynk.com/english/public-distribution-system-shifted/>.

<sup>509</sup> Yuna Ha, "N. Korea Orders Reorganization of the Country's Caste System," *Daily NK English* (blog), February 21, 2020, <https://www.dailynk.com/english/north-korea-orders-reorganization-countrys-caste-system-songbun/>.

<sup>510</sup> Ibid.

<sup>511</sup> Ibid.

<sup>512</sup> Ibid.

<sup>513</sup> Ibid.

classes in the revised system, as they encompass individuals who are not considered fully loyal to the state and the Workers' Party of Korea.<sup>514</sup>

By controlling state-run shops, suppressing private markets, selectively distributing resources, and reclassifying the state-caste control system, Kim's regime seeks to maintain the population's dependence on the state and ensure allegiance to the regime. These strategies, while not always successful, demonstrate Kim Jong Un's determination to adapt and maintain his control in the face of changing economic and social conditions.

### **The Question of International Aid**

North Korea's chronic food insecurity has been a long-standing concern, exacerbated by the regime's complicated relationship with international aid. The country's leadership has often viewed foreign assistance as a security threat which leads to a pattern of rejecting help and limiting access to aid organizations. North Korea's approach to international aid, coupled with the UN sanctions, has also perpetuated the nation's struggle to meet the basic needs of its people and address the ongoing food insecurity.

While COVID-19 concerns seem valid, North Korea has a long record of perceiving international food assistance as a destabilizing factor to its regime. In 2020, Pyongyang turned down food aid from South Korea as tension ran high in the Korean Peninsula.<sup>515</sup> At the height of the pandemic, Kim Jong Un's sister rejected South Korea's economic and food assistance calling it a step toward denuclearization, she was quoted saying "no one barter its [North Korea's] destiny for corn cake."<sup>516</sup> Through the World Food Program, the South Korean government donated 50,000 tons of rice, but North Korea turned it down following the demolition of a liaison office in Kaesong in June of the same year. The North Korean Ministry of Foreign Affairs called US humanitarian assistance an attempt to interfere in North Korean internal affairs, calling it a "sinister scheme"<sup>517</sup> to put pressure on Pyongyang.

Due to the regime's rejection of international aid, there are no international organizations on the ground that facilitate food aid distribution in North Korea during and after the COVID-19 pandemic.

It is also crucial to consider the potential impact of UN sanctions on North Korea when discussing international aid for the country. These sanctions may have the unintended consequence of deterring international donors and organizations from providing necessary funding and assistance to North Korea, thereby limiting the aid that is essential for the nation's survival.

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<sup>514</sup> Ibid.

<sup>515</sup> Elizabeth Shim, "North Korea Turns down \$11 Million of Food Aid from South - UPI.Com," *UPI*, November 30, 2020, [https://www.upi.com/Top\\_News/World-News/2020/11/30/North-Korea-turns-down-11-million-of-food-aid-from-South/9001606745045/](https://www.upi.com/Top_News/World-News/2020/11/30/North-Korea-turns-down-11-million-of-food-aid-from-South/9001606745045/).

<sup>516</sup> Tong-Hyung Kim, "North Korea Dismisses Seoul's Aid Offer as 'foolish' Repeat," *AP News*, August 18, 2022, <https://apnews.com/article/united-states-seoul-recycling-south-korea-bfe6820d4b34fc441f67b414476cf77f>.

<sup>517</sup> Edward White and Song Jung-a, "North Korea Warns US Humanitarian Assistance Is a 'Sinister Scheme,'" *The Financial Times*, July 12, 2021, <https://www.ft.com/content/f6e6b4d5-c454-4944-8e4f-d71483d650cc>.

In March 2018, the United Nations called for \$111 million of food, health, and sanitation assistance to the most vulnerable 6 million in North Korea; however, only 20.6 percent of the requested money was met by donors. The majority of reasons are associated with concerns over the misuse of those aids by the regime to fund its nuclear program or help ease the burden of the North Korean government to look after its people.

While sanctions on North Korea may have unintended negative consequences, the full extent of these side effects remains unknown due to the lack of access and reliable information from within the country.

## Section 5.2: The Geopolitics of Food

### North Korea - South Korea Relations

The breakdown of US-North Korea nuclear talks in 2019 led to the suspension of all economic cooperation between the two Koreas, and the abolition of laws related to the Mount Kumgang tourism project.<sup>518</sup> In early 2024, inter-Korean relations further deteriorated as North Korea labeled the South as a rival state.<sup>519</sup>

Although both North and South Korea have historically pursued a reunification policy of one nation, one system, one state, and one government,<sup>520</sup> Kim Jung Un has recently renounced this policy in favor of a two-state system, which the South Korean President has called "anti-nationalistic."<sup>521</sup> Additionally, North Korea ended a military pact signed in 2018 to de-escalate tensions near the military border, which was established as a truce after the 1950-53 Korean War.<sup>522</sup> In late 2023, North Korea initiated a focused campaign to instill in its residents the belief that they hold no brotherly ties with South Koreans and that South Korea should be considered their nation's "primary adversary." The aim appears to be to prevent North Korean residents from drawing comparisons between the two Koreas and dampen any nascent hopes for a South Korea-led unification.<sup>523</sup>

The South Korean approach to the North Korean food situation is largely decentralized, with private sector organizations playing a significant role in providing humanitarian and food aid to North Korea. Despite fluctuations in the figures, South Korean private organizations provided KRW 4.7 billion (USD\$ 4.17 million) from January to November 2018.<sup>524</sup> Following the third inter-Korea summit in 2018, the South Korean government also agreed to increase the funding for the Inter-Korean Cooperation Fund to nearly USD 1 billion, with 500 million reserved for

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<sup>518</sup> "North Korea Ends All Economic Cooperation with South as Ties Hit New Low," *Al Jazeera*, February 8, 2024, <https://www.aljazeera.com/news/2024/2/8/north-korea-ends-all-economic-cooperation-with-south-as-ties-hit-new-low>.

<sup>519</sup> "North Korea Ends Policy of Reunification with South Korea," *Voice of America*, January 16, 2024, <https://www.voanews.com/a/north-korea-ends-policy-of-reunification-with-south-korea/7441790.html>.

<sup>520</sup> Bong-geun Jun, "North Korea Has Lost the 'Unification Competition,'" *United States Institute of Peace*, February 22, 2024, [https://www.aplnetwork/news/member\\_activities/north-korea-has-lost-the-unification-competition](https://www.aplnetwork/news/member_activities/north-korea-has-lost-the-unification-competition).

<sup>521</sup> Ibid.

<sup>522</sup> "North Korea Ends All Economic Cooperation with South as Ties Hit New Low."

<sup>523</sup> Chun Sig Kim, "Decoding North Korea's Changing Policies: A South Korean Perspective," *38 North*, February 28, 2024, <https://www.38north.org/2024/02/decoding-north-koreas-changing-policies-a-south-korean-perspective/>.

<sup>524</sup> Daryum Ji, "S.Korean NGOs Provide KRW4.7 Billion in Humanitarian Aid to N.Korea in 2018: MOU," *NK News*, December 18, 2018, <https://www.nknews.org/2018/12/s-korean-ngos-provide-krw4-7-billion-in-humanitarian-aid-to-n-korea-in-2018-mou/>.



humanitarian-related issues.<sup>525</sup> Even during the pandemic and despite North Korea sealing off its entire border, South Korean privately run humanitarian groups managed to send humanitarian aid worth USD 1.24 million in 2020, including COVID-19 medicines, powdered milk, and bread in a package.<sup>526</sup> In 2022, there were 12 humanitarian assistance projects,<sup>527</sup> but the numbers plummeted to two in 2023.<sup>528</sup>

While the South Korean private sector has shown consistency in providing aid to North Korea, the process is not entirely immune from the political tensions in the Korean Peninsula. *NK News* reported in early March 2024 that South Korea's Ministry of Unification denied two South Korean NGOs to contact North Korean partners for aid shipment, a request that was made last year.<sup>529</sup> The news comes after North Korea renounced the unification policy and labeled South Korea as its enemy.<sup>530</sup> During the pandemic, there was a pattern of North Korea denying South Korean aid, as the latter was concerned about the potential link between aid and denuclearization. Kim Jung Un's sister ran a commentary calling Seoul's economic aids foolish and insincere.<sup>531</sup> Additionally, following the demolition of the inter-Korean liaison office in Kaesong in 2020, North Korea turned down \$11 million worth of food aid from South Korea that the latter had purchased through the World Food Programme (WFP).<sup>532</sup> Despite political tensions and setbacks, South Korean private organizations continue to provide humanitarian assistance to North Korea.

### North Korea - Russia Relations

Russia and North Korea relations have substantially deepened since the beginning of Russia's full-scale invasion of Ukraine on 24 February 2022. Moscow has been consumed by its war against Ukraine, and its needs for continuing military aggression have grown exponentially. In the second year of the war, as Moscow's blitzkrieg to capture a significant portion of Ukraine and subdue the government in Kyiv failed, the military campaign began to rapidly deplete artillery stockpiles, leaving Russia facing an acute shortage of artillery shells<sup>533</sup>. Russia's increasing need for artillery munitions opened a window of opportunity for the Pyong and Moscow to tighten mutually beneficial ties.

<sup>525</sup> 孙汝, "ROK Earmarks \$970m for Cooperation Fund with DPRK," *China Daily Global*, October 12, 2018, <https://www.chinadaily.com.cn/a/201812/10/WS5c0e2acfa310eff303290268.html>.

<sup>526</sup> Kelly Kasulis, "South Korea Approved \$1.24 Million in Private Aid to North Korea in 2020," *NK News*, October 8, 2020, <https://www.nknews.org/2020/10/south-korea-approved-1-24-million-in-private-aid-to-north-korea-in-2020/>.

<sup>527</sup> Bremer Ifang, "Seoul Approves Two New Deliveries of Humanitarian Aid to North Korea," *NK News*, October 18, 2022, <https://www.nknews.org/2022/10/seoul-approves-two-new-deliveries-of-humanitarian-aid-to-north-korea/>.

<sup>528</sup> Bremer Ifang, "Seoul Approves Just Two Requests to Send Humanitarian Aid to North Korea in 2023," *NK News*, December 22, 2023, <https://www.nknews.org/2023/12/seoul-approves-just-two-requests-to-send-humanitarian-aid-to-north-korea-in-2023/>.

<sup>529</sup> Bremer Ifang, "Seoul Denying Requests to Contact North Korea about Aid Shipments, NGOs Say," *NK News*, March 1, 2024, <https://www.nknews.org/2024/03/seoul-denying-requests-to-contact-north-korea-about-aid-shipments-ngos-say/>.

<sup>530</sup> Simone McCarthy, "China's No. 3 Leader Set to Visit North Korea and Kick off 'Friendship Year,'" *CNN*, April 11, 2024, <https://www.cnn.com/2024/04/10/china/china-delegation-northkorea-zhao-leji-intl-hnk/index.html>.

<sup>531</sup> Tong-Hyung Kim, "North Korea Dismisses Seoul's Aid Offer as 'foolish' Repeat."

<sup>532</sup> Elizabeth Shim, "North Korea Turns down \$11 Million of Food Aid from South."

<sup>533</sup> David Hambling, "When Will Ammunition Shortage Silence Russia's Artillery?," *Forbes*, April 5, 2023. Accessed April 9, 2024, <https://www.forbes.com/sites/davidhambling/2023/04/05/when-will-ammunition-shortage-silence-russias-artillery/>.

Russia-North Korea alignment will likely grow in the coming period, presumably enabling the Kim regime to tackle the severe food crisis in North Korea due to Russian food supplies and the income generated from the military sales to Moscow.

### *Moscow-Pyongyang Alignment*

Russia's invasion of Ukraine has been a catalyst for alignment between Russia and North Korea. Pyongyang quickly seized the opportunity to intensify relations with Moscow. North Korea was among five other nations that opposed the UN resolution condemning Russia's invasion of Ukraine in March 2022. North Korea was one of the first countries to recognize the "independence" of Russia-created "Donetsk and Luhansk People's Republics." One of North Korea's rationales was to obtain food, fuel, and medicine, as stockpiles had been depleted due to the stringent COVID-19 lockdown.<sup>534</sup>

In September 2023, Russian President Vladimir Putin and North Korean leader Kim Jong Un met for a rare summit in Russia which marked the beginning of enhanced ties between the countries. Putin and Kim discussed international affairs, the war in Ukraine, and possible areas of cooperation including military and economic spheres.<sup>535</sup>

On March 29, 2024, in a move to support the Kim regime diplomatically, Russia vetoed a United Nations resolution that would renew an independent panel of experts investigating North Korea's violations of Security Council sanctions.<sup>536</sup>

Some reports claim that North Korea sent 300 workers to Russia in February 2024. As the countries are moving closer, Pyongyang is likely to continue to dispatch more workers to Russia.<sup>537</sup>

### *Military Transfers*

Russia-North Korea enhanced military cooperation after the Putin-Kim Summit, with Pyongyang delivering significant amounts of artillery ammunition. Ukraine's Defense Intelligence estimates that North Korea has sent one and a half million artillery rounds of ammunition to Russia.<sup>538</sup> According to South Korea's Ministry of Defense, North Korea has sent 6700 containers of

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<sup>534</sup> Victor Cha and Ellen Kim, "Summit between Kim Jong-Un and Vladimir Putin," September 13, 2023, <https://www.csis.org/analysis/summit-between-kim-jong-un-and-vladimir-putin>.

<sup>535</sup> Soo-Hyang Choi, and Guy Faulconbridge, "Putin and North Korea's Kim Discuss Military Matters, Ukraine War and Satellites," *Reuters*, September 14, 2023, sec. World, <https://www.reuters.com/world/nkoreas-kim-meets-putin-missiles-launched-pyongyang-2023-09-13/>.

<sup>536</sup> Richard Roth et al, "Russia Protects North Korea in the UN with Veto of Resolution to Investigate Sanction Violations," *CNN*, March 29, 2024, <https://www.cnn.com/2024/03/29/asia/russia-veto-un-sanctions-north-korea-intl-hnk/index.html>.

<sup>537</sup> Soo-yeon Kim, "Around 300 N. Korean Workers Arrived in Russia via Train: Expert," *Yonhap News Agency*, February 14, 2024, <https://en.yna.co.kr/view/AEN20240214002600315>.

<sup>538</sup> Oleksandra Amru, "GUR: North Korea Delivered One and a Half Million Artillery Ammunition to Russia," *Babel*, February 23, 2024, <https://babel.ua/en/news/104235-gur-north-korea-delivered-one-and-a-half-million-artillery-ammunition-to-russia>.

ammunition.<sup>539</sup> The amount is enough to accommodate approximately 3 million rounds of 152 mm artillery shells or 500,000 of 122 mm artillery shells.<sup>540</sup>

According to the Center for Strategic and International Studies report<sup>541</sup> North Korea used Najin port to deliver large quantities of ammunition to Russia's Dunai and Vostochny Ports in the Far East. The first step of the route was port-to-port deliveries, followed by the use of railroads to ship containers across Russia.



Source: Center for Strategic and International Studies

**Figure 8 - The Najin, Duna, and Vostochny Port Deliveries**

Currently, North Korea has been increasingly relying on rail networks to send and receive supplies to and from Russia which suggests the condition of the rail network has likely improved recently.<sup>542</sup>

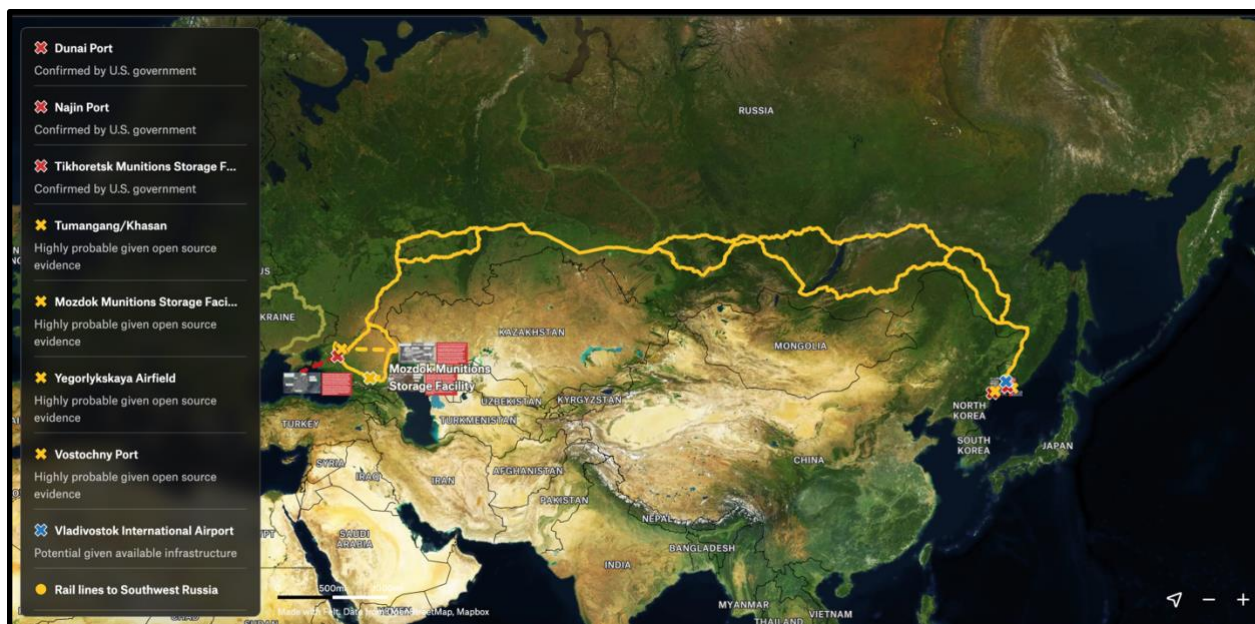
<sup>539</sup> "STATEMENT OF GENERAL CHRISTOPHER G. CAVOLI, UNITED STATES ARMY UNITED STATES EUROPEAN COMMAND." United States House Armed Service Committee. April 10, 2024, 4. [https://democrats-armedservices.house.gov/\\_cache/files/b/4/b4b44770-1279-4198-836e-183e91d7b980/6467A7A8043BA5F0139C43E3518424CEC433E16A7FEDB49EC5338919855EE9C4.useucom-gen-cavoli-cps-hasc-2024.pdf](https://democrats-armedservices.house.gov/_cache/files/b/4/b4b44770-1279-4198-836e-183e91d7b980/6467A7A8043BA5F0139C43E3518424CEC433E16A7FEDB49EC5338919855EE9C4.useucom-gen-cavoli-cps-hasc-2024.pdf)

<sup>540</sup> Soo-Hyang Choi, "North Korea Has Supplied 7,000 Containers of Ammo to Russia," TIME, June 14, 2024, <https://time.com/6988568/north-korea-russia-artillery-shell-south-korea-defense-minister>.

<sup>541</sup> Joseph S. Bermudez Jr Jun Victor Cha, Jennifer, "Major Munitions Transfers from North Korea to Russia," *Beyond Parallel CSIS*, February 28, 2024, <https://beyondparallel.csis.org/major-munitions-transfers-from-north-korea-to-russia/>.

<sup>542</sup> Soo-Hyang Choi, "North Korea Has Supplied 7,000 Containers of Ammo to Russia."





Source: Center for Strategic and International Studies

**Figure 9 - The Rail Network in Russia used for North Korean military supplies**

### *Russian Supplies*

In return, Moscow presumably supplied military technology including satellite-related technology and parts for improving weapons manufacturing. North Korean factories are operating at full capacity to produce ammunition for Russia.<sup>543</sup>

Russia provided approximately 9,000 containers of mostly food and other material to North Korea. Per South Korea's Defense Minister Shin Won-Sik "Food accounts for the largest proportion (of shipments from Russia), which is believed to have stabilized food prices in North Korea. Due to the Russian supplies, the food shortage in North Korea seems not to have been as severe as of late."<sup>544</sup>

North Korea also generated a significant amount from weapons sales to Russia. The value of the artillery shells is likely several billion dollars and could represent the biggest boost to North Korea's COVID-19-plundered economy. For instance, the Hwasong-11 ballistic missiles have been priced at about \$5 million. The United States confirmed that Russia used several Hwasong-11 ballistic missiles against Ukraine in December 2023.<sup>545</sup> According to Ukraine's State Security Service Russia has fired more than 20 North Korean-produced ballistic missiles at various targets including civilian infrastructure in Ukraine since December 2023.<sup>546</sup>

<sup>543</sup> Eun-jung Kim, "Defense Chief Says N.K. Munitions Factories Operating at Full Capacity to Supply Russia," *Yonhap News Agency*, February 27, 2024, <https://en.yna.co.kr/view/AEN20240227002800315>.

<sup>544</sup> Ibid.

<sup>545</sup> Colleen Long and Aamer Madhani, "Russia Has Used North Korean Ballistic Missiles in Ukraine and Is Seeking Iranian Missiles, US Says," *AP News*, January 4, 2024, <https://apnews.com/article/russia-ballistic-missile-ukraine-iran-us-intelligence-3601a979e91d19c94e7d0fe27a398669>.

<sup>546</sup> Veronika Melkozerova, "Russia Used at Least 20 North Korean Ballistic Missiles in Attacks on Ukraine, Kyiv Says," *POLITICO*, February 22, 2024, <https://www.politico.eu/article/ukraines-sbu-found-evidence-russia-used-at-least-20-north-korean-missiles-to-attack-ukraine/>.

Standard shipping containers come in 20-foot sizes. A 20-foot container typically accommodates around 25 tons of grain. Given that Russia sent 9,000 containers to North Korea roughly between October 2023 and February 2024, if all of those containers were loaded with grain, the maximum capacity would have been approximately 225,000 tons. While it is virtually impossible to accurately assess North Koreans' access to food using publicly available information, Russian supplies hold the potential to help alleviate acute food shortages in North Korea.

### **North Korea - China Relations**

China's primary goal is to maintain the stability and status-quo on the Korean peninsula, ensure security of the Kim regime and use North Korea as a buffer zone. Even during the severe COVID-19 lockdown when trade was halted and borders were sealed between countries, Beijing secretly provided food aid to the Kim regime.<sup>547</sup>

China is now confronted with a new reality: a deepening alliance between Russia and North Korea, a development that discomfits Beijing. In April 2024, China sent its highest-level delegation since 2019 to North Korea to bolster relations between the two countries and promote greater cooperation in military, cultural, political, and economic domains. Zhao Leji, who is chairman of China's National People's Congress and considered the No. 3 official in the ruling Communist Party led the delegation to North Korea.<sup>548</sup>

China's imperative to counterbalance the newly formed alliance between Russia and North Korea creates an opportunity for the Kim regime to exploit, allowing it to leverage its position against major powers. This maneuvering might afford Pyongyang the chance to secure adequate trade levels, facilitating economic recovery and addressing the food crisis.

### *Trade*

North Korea's trade with China has increased significantly in 2023 which is a positive sign that the North Korean economy is recovering, but the trade volume has not yet returned to pre-pandemic levels. North Korea is still facing shortages of goods, and the border lockdown has not been fully lifted, contributing to the persisting instability in the North Korean economy.<sup>549</sup>

North Korea predominantly imported raw materials for processing trade (textile and garment raw materials), staple foods (rice and sugar), agricultural materials (fertilizer), and construction materials from China in 2023.

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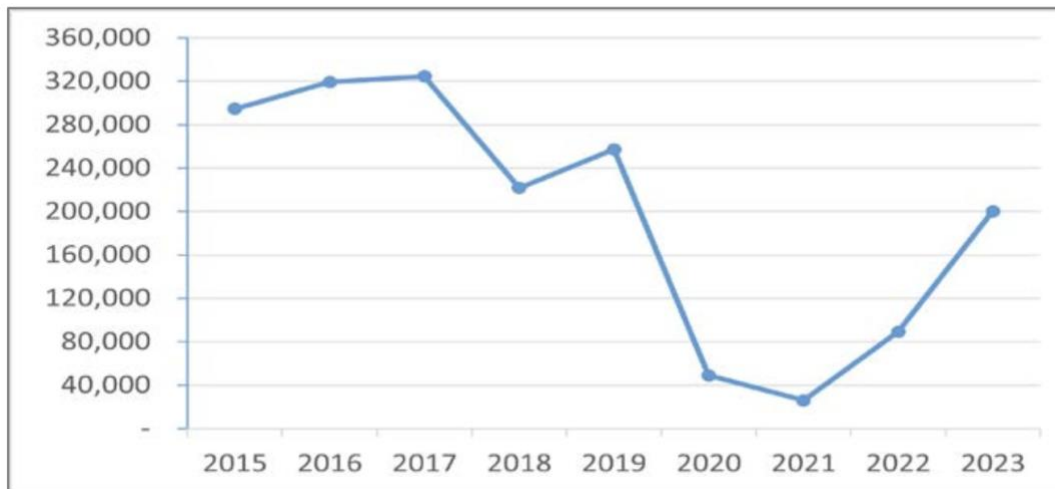
<sup>547</sup> Jieun Kim, "China Secretly Sends Food Aid to North Korea by Rail," *Radio Free Asia*, April 20, 2021, accessed March 20, 2024. <https://www.rfa.org/english/news/korea/rail-04202021162846.html>.

<sup>548</sup> Simone McCarthy, "China's No. 3 Leader Set to Visit North Korea and Kick off 'Friendship Year,'" *CNN*, April 11, 2024. <https://www.cnn.com/2024/04/10/china/china-delegation-northkorea-zhao-leji-intl-hnk/index.html>.

<sup>549</sup> Jangho Choi and Yoojeong Choi, "North Korea's 2023 Trade with China: Analysis and Forecasts," *Korea Institute for International Economic Policy*, March 26, 2024. [https://www.kiep.go.kr/gallery.es?mid=a20301000000&bid=0007&list\\_no=11231&act=view&act=view&list\\_no=11231&cg\\_code=](https://www.kiep.go.kr/gallery.es?mid=a20301000000&bid=0007&list_no=11231&act=view&act=view&list_no=11231&cg_code=).

### North Korea's Imports from China

Unit: Ten thousand USD, %

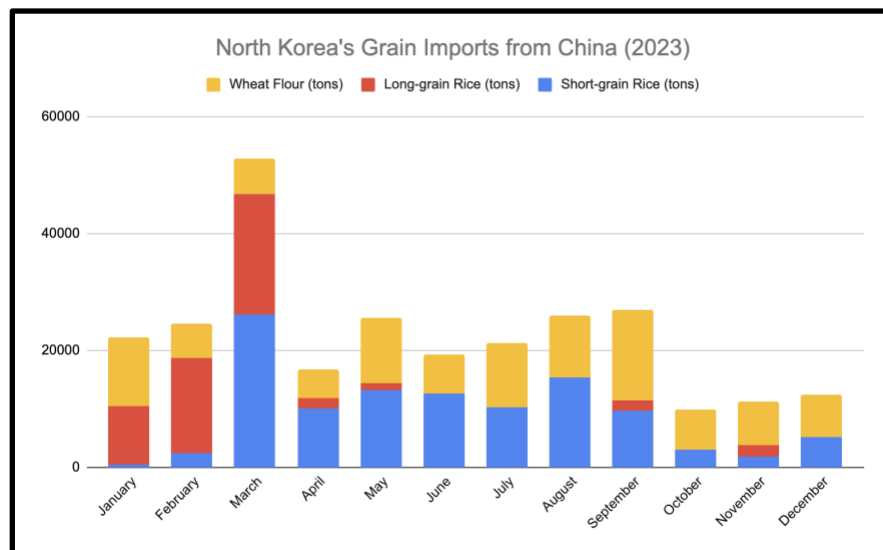


Source: China Customs Statistics.

**Figure 10**

Korea Institute for International Economic Policy underscores the improvement of North Korea-China relations and the full opening of the border in 2024 will be the determining factors for North Korea-China trade.

After resuming the trade between the two countries, North Korea also imported a significant amount of grain from China in 2023: 110,380 tons of short grain rice, 53,943 long-grain rice and 111,436 tons of wheat flour.



**Figure 11**



## Section 6: Strategic Implications and Conclusion

### Section 6.1: Strategic Implications and Future Considerations

This report outlines findings indicating the presence of severe food insecurity in North Korea. This section discusses the strategic implications of the findings and potential avenues for further exploration that the United States government can pursue if it decides to intervene and attempt to improve the food situation in North Korea.

#### U.S. Humanitarian Intervention

Food aid should not be provided when a country is experiencing acute food insecurity if food is actively being diverted by authorities and security forces. Given the totalitarian nature of the North Korean regime and the current ban on in-country monitoring teams, it is likely any food aid would be seized by the government or state police and distributed to Party members and elites. Without sufficient personnel inside North Korea to monitor the distribution of aid, directly providing food aid to North Korea is probably not the most effective use of humanitarian assistance under current circumstances. Nevertheless, should the US government still decide to intervene and provide humanitarian assistance, it would have to establish a precedent demonstrating the dire state of North Korea's food insecurity to the international community, regardless of the politics and risks involved.

Should circumstances change and the Kim regime permits the entry of international assessment and monitoring teams to oversee aid distribution, direct food aid may become more feasible. If the US decides to start a food aid program in North Korea, the following framework is an expanded version suggested by Andrew Natsios' chapter in *Troubled Transition: North Korea's Politics, Economy, and External Relations* should be negotiated with the DPRK before any food aid program is initiated:

1. Under no circumstances should food aid be distributed through the public distribution system or the new government food stores.
2. Under no circumstances should the food most preferred by the North Koreans (such as rice) be distributed, because it invites diversion by the elites. Maize and bulgar wheat should be distributed instead because their recipients are self-selecting.
3. No food aid should be delivered to west coast ports, as the western part of the country is the most food secure. Instead, food aid should be delivered in small amounts to the eastern ports, to as many smaller ports as possible, where it is likely to remain due to the continued paralysis of the transportation system.
4. Food aid ought not to be connected to any negotiations over any extraneous issues such as talks over the nuclear or any other issue, as rigorous monitoring will be the first thing the North Koreans insist be abandoned.
5. All food aid shipments should be made on a monthly basis, so that should the North Koreans violate the agreed-upon aid protocols, future shipments can be canceled.
6. Regular random nutritional surveys must be performed in sentinel surveillance sites to observe malnutrition rates, a drop in which would be one indication that food was actually getting to the poorest and most vulnerable people. If surveys showed no improvement in nutritional conditions, it would show that the food aid program was compromised.

7. Food price monitors should be stationed at major markets around the country to report on any spikes in prices that could increase food security. Should these price increases take place, food aid should be auctioned off at the port facilities to moderate the price increases.
8. Food should be targeted at unemployed factory workers and miners and their families who are destitute, or to any group the nutritional surveys show is food insecure and malnourished.
9. To the extent possible in schools, food should be cooked by NGO workers and distributed in school for children to eat. Food, once cooked, is not marketable and must be eaten quickly or it will spoil, thus reducing the likelihood of it being diverted by security forces.
10. The US or other international organizations should insist on three actions: (1) the DPRK open back up the private farmers markets as they are a coping mechanism for people without access to government food stores, (2) the private family plots are once again allowed and encouraged, and (3) the banning of private plots also known as fire fields in rural areas should be lifted.
11. Finally, any aid protocol must insist on unlimited, unannounced, and random access and monitoring by international food experts who are Korean speakers. The aid community ought to insist that no limit be placed on the number of these monitors.

The current inability to provide food aid in North Korea forces the U.S. Government to consider alternative approaches that could potentially improve North Korea's food situation while protecting U.S. interests.

However, given the new geo-political situation which allows the DPRK to played off Russia and China against each other to obtain more food it is very unlikely the Pyongyang will ask for international food assistance.

### **Domestic Political Implications**

Despite the severe food insecurity, the North Korean regime consistently prioritized the preservation of power and the promotion of the Juche ideology over the well-being of the population. In this sense, the regime set unrealistic agricultural production targets, actively suppressed private markets, and distributed resources selectively based on loyalty to the regime. The deterioration of the Public Distribution System (PDS) further compounded the situation, leading the regime to employ alternative methods of control, such as establishing state-run food shops in 2021 and reordering the *Songbun* system.

Addressing food insecurity in North Korea requires navigating a complex political landscape, as the regime often perceives food security as intrinsically linked to its political stability. To effectively work towards improving food security in the country, the U.S. and international stakeholders should make it clear upfront that the primary objective of their efforts is to alleviate the suffering of the North Korean people. It is also worth mentioning to North Korean officials the famous saying of former president Ronald Reagan that "A Hungry Child Knows No Politics."

As North Korea loosened its COVID-19 regulations and reopened the border, the U.S. and international stakeholders could consider reaching out to North Korea for a potential talk on aid programs. Of course, this may involve establishing clear conditions and monitoring programs for

the delivery of aid, such as working with the line ministries in North Korea to allow selected international organizations to access and assess the distribution of assistance. The U.S. and international stakeholders could also explore alternative channels for providing aid by working with informal networks to circumvent the regime's control and ensure that aid reaches the intended beneficiaries.

### **Geopolitical Implications**

Geopolitical factors, especially the strained relationship between North and South Korea, have also exacerbated the ongoing food security in North Korea. The collapse of US-North Korea nuclear talks and the perceived threat posed by the ROK-US military alliance have heightened tensions and prompted a shift in North Korea's stance on reunification, further complicating the provision of food assistance. Strategies to address North Korea's food crisis should take into account the geopolitical dynamics in the region, particularly the relationship between North and South Korea, and the potential impact of assistance on the regime's stability.

The new geopolitical reality presents unprecedented opportunities for the Kim regime, shaped by Russia's full-scale invasion of Ukraine and subsequent need to obtain artillery, along with China's need to counterbalance the Moscow-Pyongyang alliance. Russian food supplies and the income generated from military sales to Moscow, along with a revitalized political and economic partnership with Beijing, are likely to enable the Kim regime to better address and manage the acute food crisis in North Korea.

### **Economic Implications: US intervention in the DPRK's economy**

The strategic implications of North Korea's deteriorating income levels, exacerbated by border closures, reduced income from smuggling and trade, increased demands for bribes, and stagnant wages in the face of rising food prices, underscore a deepening food insecurity crisis. The disruption of market operations and the limitation of income opportunities during critical agricultural periods highlight an acute increase in food scarcity and a broader vulnerability among the North Korean population. U.S. intervention during key agricultural periods, specifically during the lean periods—when food stocks are lowest and the population is most vulnerable—in North Korea could be strategically beneficial as it directly addresses the immediate cause of food insecurity while simultaneously fostering goodwill and stability during the period the DPRK is most likely to accept foreign intervention.

Given the critical role of markets and trading in providing the primary means of income and food access for most North Korean citizens, it is imperative for the U.S. to advocate for the DPRK to reform its market interventions and promote the establishment of domestic free markets.

### *Navigating the Risks of Centralization: Contingency Planning for North Korea's Food Security*

The recent pivot towards a more state-dominated food economy in North Korea suggests that, while current favorable agricultural conditions have staved off a more severe food security crises, the underlying vulnerability of the system remains. The legal and policy shifts aiming for greater self-sufficiency and centralized control could backfire in less auspicious years or under strained relations with external partners like China. This trajectory raises concerns for international humanitarian organizations that may face challenges akin to those encountered during the 1990s famine. The reversion to a state-centric distribution system could complicate monitoring, aid effectiveness, and potentially exacerbate food insecurity if political considerations overshadow the equitable distribution of food resources. Therefore, contingency

planning and developing robust mechanisms to ensure transparency and accountability in aid distribution are imperative for future engagement with North Korea during food crises.

## Section 6.2: Conclusion

The evidence collected from open-source information indicated that several provinces may be experiencing a Phase 5 Catastrophe/Famine. Furthermore, during periods of scarcity, the lean period, and specifically within border regions and among specific demographic groups including orphans, elderly, prisoners, traders, teachers, and ethnic Chinese, the situation may also escalate to a Phase 5 Catastrophe/Famine. This potential escalation is evidenced by significant food consumption deficits, which have resulted in the highest incidence of starvation-related fatalities within these groups, coupled with the liquidation of assets and the lack of sustainable livelihood options.

The *Songbun* system has historically determined food ration levels, and it is reasonable to assume that this remains the case in the new system. In the newly reclassified North Korean *Songbun* system, the government has created twelve categories to group individuals with the lowest classes appear to be the newly added categories of "ideologically wavering" and "complainers and discontents." These two classes represent individuals not fully loyal to the state and the Workers' Party of Korea, which means that they are likely to receive the least amount of food rations from the government, if any. Currently, we do not have exact numbers of the rations or the geographical distribution of the lowest *Songbun* classes in North Korea. However, given the serious food insecurity in the country, it is reasonable to assume that these vulnerable individuals are scattered across the nation.

This situation is particularly concerning because the North Korean government has recently shut down alternative means of obtaining food, such as private markets, fire fields (small plots of land used for illegal farming), and household gardens. With the closure of these alternative food sources, those in the lowest *Songbun* categories now join the long list of vulnerable groups who struggle to survive during times of hardship. They not only receive the least amount of food rations from the government but also have no other means to supplement their food supply. This combination of factors puts them at a significantly higher risk of facing food insecurity and potentially life-threatening situations.

While these indicators are alarming, this report does not have comprehensive data on mortality and malnutrition rates across the most vulnerable populations nationwide. Thus, this report cannot confidently declare that the entire country has reached a Phase 5 catastrophe. IPC Phase 5 requirements warrant that at least 20 percent of households in an area are experiencing Phase 5 outcomes, acute malnutrition levels are exceeding 30 percent, and more than 2 per 10,000 people are dying each day. The IPC's rigorous criteria for famine classification—requiring clear evidence that two of the three critical thresholds (starvation, acute malnutrition, and mortality) have been met—are not fully satisfied according to the available open source information. Therefore, a more detailed examination and data collection regarding these key indicators is essential to accurately assess the presence of famine within North Korea.

To make the case for a nationwide Phase 5 declaration, it is imperative to gather more granular data on the extent of starvation, acute malnutrition, and mortality rates within the identified high-

risk groups. However, obtaining this information is particularly challenging due to the closed nature of North Korea and the limited open-source information available online. The country's strict control over information flow and its skeptical of international observers make it difficult to conduct on-the-ground surveys or access health facility records. Given the limited timeframe for research and the financial constraints in acquiring certain types of information, it is important to acknowledge that gathering the necessary data to make a strong case for a Phase 5 declaration in North Korea is even more challenging. Conducting interviews with defectors and refugees, while potentially insightful, may require significant time and resources to identify and reach out to these individuals. Obtaining high-resolution satellite imagery for analysis may also prove costly, as such data is often only available through commercial providers.

Utilizing the Integrated Food Security Phase Classification (IPC), this analysis could only posit that outside of Pyongyang, a large portion of the nation grapples with a Phase 4 Emergency situation. According to IPC Phase 4 requirements, this means that at least 20 percent of households are experiencing Phase 4 or worse outcomes, acute malnutrition levels are expected to be between 15-30 percent, and between 1-2 per 10,000 are dying every day. Our analysis draws this conclusion based on reported and estimated food consumption gaps stemming from insufficient domestic production and imports, reported widespread adoption of crisis-coping strategies, and mass starvation-related deaths and suicides beginning in 2021 and continuing into 2022-2023.

Using Amartya Sen's framework to analyze the current situation in North Korea supports evidence of an IPC Phase 4 classification, with the potential to escalate to a Phase 5 classification. An entitlement is defined as the set of resources one has access to which can be exchanged for the goods and services they need. The [four entitlements](#) (discussed in Section 2) from Sen's famine theory are trade-based, production-based, own-labor, and inheritance/transfer entitlements. When all four entitlements collapse, starvation-related deaths will increase despite increases in production. The collapse of all four entitlements has been observed from this report's findings on North Korea.

The famines could become localized by province due to differences in reactions and the *Songbun* system (class system). Additionally, Sen lays out a "subgroup" entitlement, which means that food is only available to a certain group of people. He states:

More importantly, one's exchange entitlement may worsen for reasons other than a general decline of food supply. For example, given the same total food supply, other groups' becoming richer and buying more food can lead to a rise in food prices, causing a worsening of exchange entitlement...if prices facing different groups of people differ, e.g. between social classes or income groups or localities, then the poverty line will be group-specific, even when uniform norms and uniform consumption habits are considered.<sup>550</sup>

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<sup>550</sup> Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation*.

During the 1990s, the third-ranking member of the North Korean Communist Party and defector Hwang Jong Yop, also stated that certain groups are prioritized more than others due to the social ranking system.<sup>551</sup> He stated:

There are many military factories in the North, but one in Changgang province was given no food rations for nine to ten months. According to a report from the related industry secretary at the meeting of secretariats, about 2,000 high-ranking engineers starved to death.<sup>552</sup>

Subgroup entitlement failure is important to consider for North Korea. The *Songbun* system is a way to prevent specific groups from receiving food, particularly rations. While the 1990s Great North Korean Famine was a product of provincial triage along the Rust Belt, the current famine could also be a result of the *Songbun* system. The regime prioritizes groups that are higher up on the hierarchy, and therefore these groups receive more food because of the social ranking system. From this report's findings, there are instances where each of these entitlements have failed.

Trade-based Entitlement Failures	Both individuals and wholesalers hoard food, causing food to no longer be available in markets. Pillaging for food, a food-related crime, also violates the trade-based entitlement.
Production-based Entitlement Failures	There were several instances of the government seizing land from individuals. This resulted in citizens losing access to small plots where they could grow food to either consume or sell at the market.
Own-labor Entitlement Failures	Citizens began to stop working because of a lack of food rations being distributed to them and because of COVID-19 restrictions. Additionally, government seizure of land also violates the own-labor entitlement.
Inheritance and Transfer Entitlement Failures	The failure of the rations system caused individuals to fall back on specific coping mechanisms (such as eating wild foods, pillaging, etc.). Additionally, selling possessions such as houses is an indication that individuals are reaching closer to destitution.

While the food situation in North Korea has yet to reach famine for the entire country, the situation remains severe, with many people still facing the risk of starvation and death,

<sup>551</sup> Andrew S. Natsios, "The Great North Korean Famine: Famine, Politics, and Foreign Policy".

<sup>552</sup> Amartya Sen. *Poverty and Famines: An Essay on Entitlement and Deprivation*.



particularly among vulnerable groups and in certain regions. Limited access to reliable data and challenges in gathering more information on key indicators make it difficult to accurately assess the full extent of the crisis. However, available evidence overwhelmingly suggests that the food security situation is precarious and requires attention from the international community.

Despite obstacles in obtaining comprehensive data, it is crucial for stakeholders to continue monitoring the situation and advocating for essential aid provision to those most in need. By working together to gather and analyze information, and engage in diplomatic efforts to facilitate assistance delivery, the United States and the international community can play a vital role in alleviating the suffering of the North Korean people and preventing a full-scale famine.

## Capstone Team



**Avie Vaidya** is a Master of International Affairs candidate at the Bush School of Government and Public Service. He received his Master's and Bachelor of Economics through a fast-track program at Texas A&M University in December of 2022. At the Bush School, Avie has been a research team lead at the Economic Statecraft Program, working on various projects focusing on the nexus between economics and national security. He is also a research assistant for the Scowcroft Institute, researching the relationship between global food insecurity and the potential for great power conflict. Avie is passionate about economic development, particularly climate, energy, and food security. He has interned at the World Bank under the Poverty and Equity Global Practice, the Cato Institute, and the Mosbacher Institute for Trade, Economics, and Public Policy. This coming summer, he will be interning with Chemonics International under the USAID Climate Finance for Development Accelerator initiative. He hopes to pursue a career in international development to contribute to the sustainable development goals and the global transition toward a sustainable future. Avie is fluent in Hindi.



**Clayton Elbel** is a fifth-year student at Texas A&M University, earning a B.S. in Agricultural Economics and a Master's in Public Administration, concentrating on public policy analysis. His background in production agriculture and interests in economic development and diplomacy have led him to pursue a career focused on global food and energy systems. He has gained first-hand experience working on food and nutritional issues through his leadership with the Farmlink Project, a national student organization dedicated to moving surplus fruits and vegetables to communities in need instead of landfills. He has interned with the Executive Office of the President (EOP) in the Office of Management and Budget (OMB), the U.S. Department of State, ExxonMobil, the Chicago Council on Global Affairs, and the Borlaug Institute for International Agriculture and Development. With interests in energy, economic development, and diplomacy, Clayton hopes to pursue a career in public policy at the federal level, being selected as a 2024 Presidential Management Fellow (PMF) finalist.



**Giorgi Revishvili** is a Fulbright Scholar and a Research Assistant at Texas A&M University's Bush School of Government and Public Service. As a Research Assistant, Giorgi studied foreign security assistance to Ukraine and its impact on the battlefield, Ukrainian force training, and Special Operations Forces operations. He has extensive experience in public service in Georgia, particularly in policy-making and strategic analysis. He previously served in the Office of the National Security Council of Georgia and the Ministry of Internal Affairs of Georgia. Giorgi holds an MA in Nationalism and Ethnicity Studies and a BA in International Relations from Ivane Javakhishvili Tbilisi State University. He also completed an MA exchange semester at the University of Viadrina in Germany, focusing on European Studies with support from the European Union-funded Erasmus+ program. Giorgi is the recipient of two prestigious scholarships from the U.S. State Department: the Edmund S. Muskie Fellowship and the Professional Fellowship. Giorgi is fluent in Georgian, English, and Russian.



**John O'Dwyer**, currently pursuing a Master of International Affairs at The Bush School of Government and Public Service, harbors a deep-seated passion for spearheading the global economy's transition towards sustainability through renewable energy initiatives. With a concentration in International Trade and Economic Development Policy, his education equips him with the expertise to analyze and evaluate policies impacting the energy sector. John aims to support the public and private sectors in pairing the energy transition with sustainable international development. His aspiration is to contribute significantly to the renewable energy sector, both domestically and internationally, leveraging his skills and experiences to drive meaningful change.



**Katrina Mulherin** is a soon-to-be Master of International Affairs graduate from Texas A&M University's Bush School of Government and Public Service. Her graduate studies have primarily focused on conflict and development, Women, Peace, and Security, and diplomacy. She received her Bachelor's degree from Duquesne University (Pittsburgh, PA) in international relations and women's and gender studies. At the Bush School, she works as a coder and graduate research assistant for the WomanStats Project, the most comprehensive database on the status of women in the world. Additionally, Katrina has been interning with USAID's Action Alliance for Preventing Sexual Misconduct (AAPSM) since June 2023, where her portfolio includes data analysis, monitoring and evaluation, and programmatic support for USAID's new Impacted Person Support pilot program in the Bureau for Humanitarian Assistance (BHA). After graduation, Katrina plans to pursue a career in public service and continue working for the federal government.





**Vithoureakborndidh Chou:** Born and raised in Cambodia, Borndidh is a Cambodian Fulbright Scholar pursuing a Master's in International Affairs at the Bush School of Government and Public Service, Texas A&M University. He did his undergraduate study in Vietnam, majoring in International Relations. His research interests lie in small-state diplomacy, US-Southeast Asia relations, US foreign policy, and diplomacy. Borndidh speaks Khmer (his mother tongue), English, and Vietnamese.

## Appendix

### Appendix A: Economic Section Methodology

#### *Establishing Economic Baseline*

The methodology involved utilizing Gross National Income (GNI) per capita as a primary indicator to monitor economic growth over time to establish the economic baseline. This approach is particularly relevant given the significant inflows of remittances from abroad. By comparing GNI per capita from the period of the Arduous March in the 1990s to the present, we aim to assess the impact of current economic conditions against the backdrop of the 1990s famine. Additionally, the analysis includes an examination of Gross Domestic Product (GDP) by major industries to trace the evolution of the economy and identify which sectors may be more vulnerable to economic shifts. A combination of open-source materials and academic studies was employed to gauge living standards and wealth distribution within the Democratic People's Republic of Korea (DPRK). Furthermore, data from the Bank of Korea on North Korea's trade patterns provided insights into the effects of sanctions, border closures, and their economic implications, drawing parallels with conditions during the Arduous March to ascertain potential factors contributing to the 1990s famine.

#### *Determining Market Prices and Wages for Food Security*

The methodology for investigating food security centers on analyzing the market prices of essential commodities such as rice, corn, diesel, and gasoline. These commodities serve as critical indicators of economic stability and market health, also helping to identify inflation trends. By tracking price fluctuations over time and in relation to the agricultural cycle, we explored the cycle's impact on commodity prices. Given the absence of reliable income data for the DPRK, open-source reporting on incomes across the country was utilized to assess how income variations affect food accessibility, offering a comprehensive understanding of the economic factors influencing food security.

#### *Investigating Market Interventions*

This approach relied on open-source reports and information detailing the implementation of domestic policies affecting markets over time to understand the extent and impact of market interventions. These included increased market vendor fees, domestic travel restrictions, harassment by officials, and state-imposed restrictions on goods permitted for sale. By examining these interventions, we aimed to delineate how such policies have influenced market operations and potentially contributed to economic challenges within the DPRK.

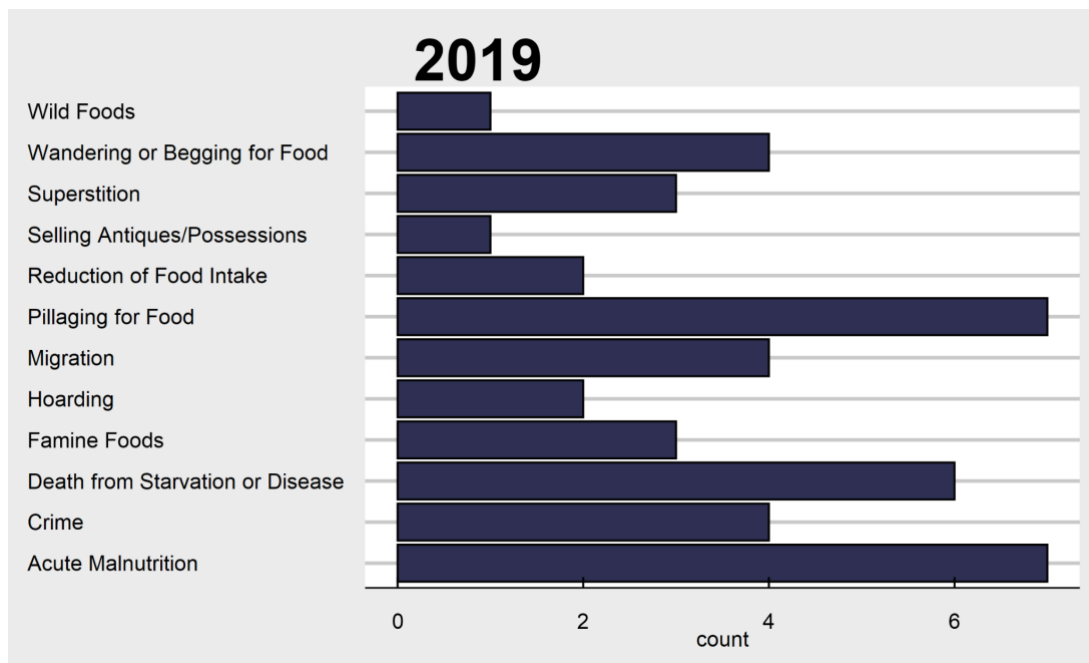
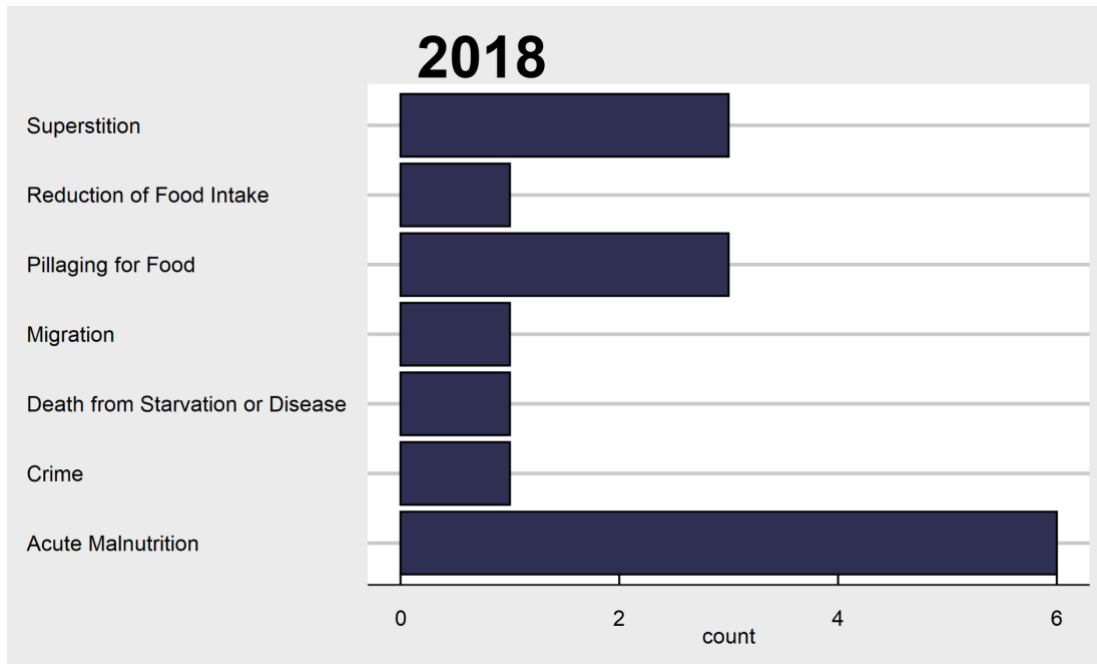
#### *Determining the State of the Transportation Network*

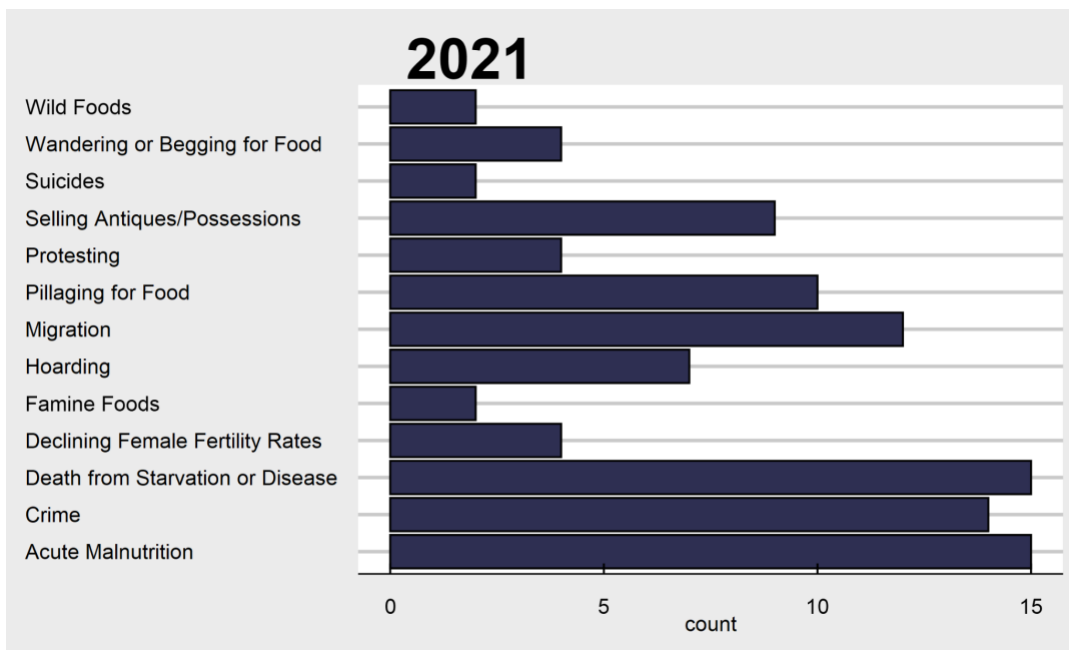
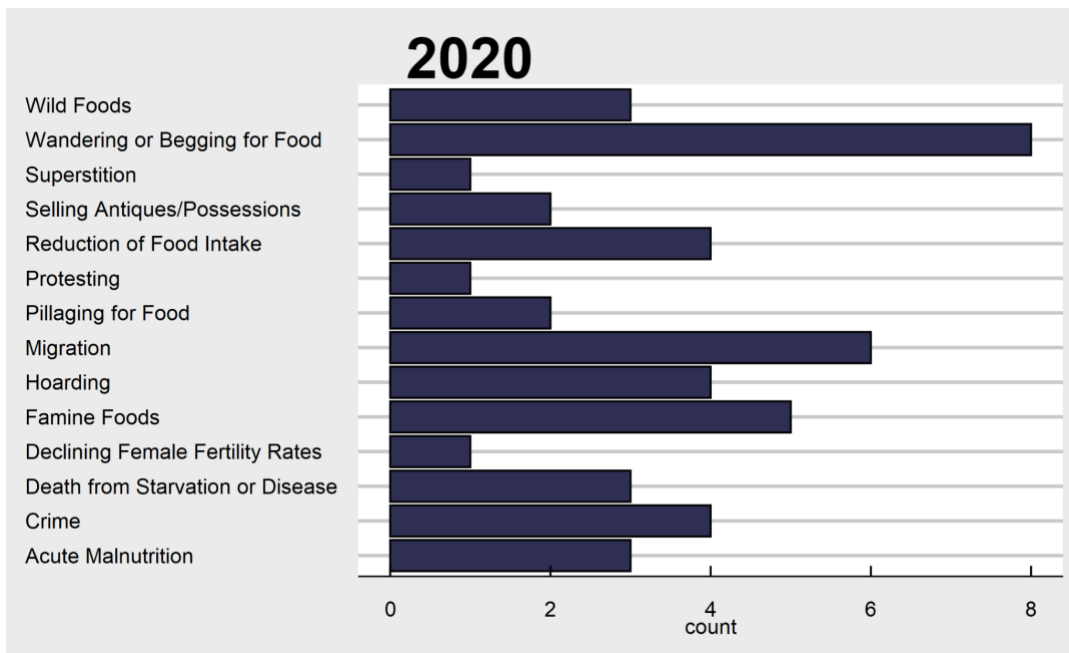
Investigating the state of the transportation network focused on open-source reporting and studies concerning the railway system, which plays a pivotal role in inter-province and city trade and travel. This analysis aimed to map out the current condition of the railway network, identify the cities and regions that benefit from more extensive railway access, and understand how the transportation infrastructure affects market access, trade, and economic stability across different areas of the DPRK.

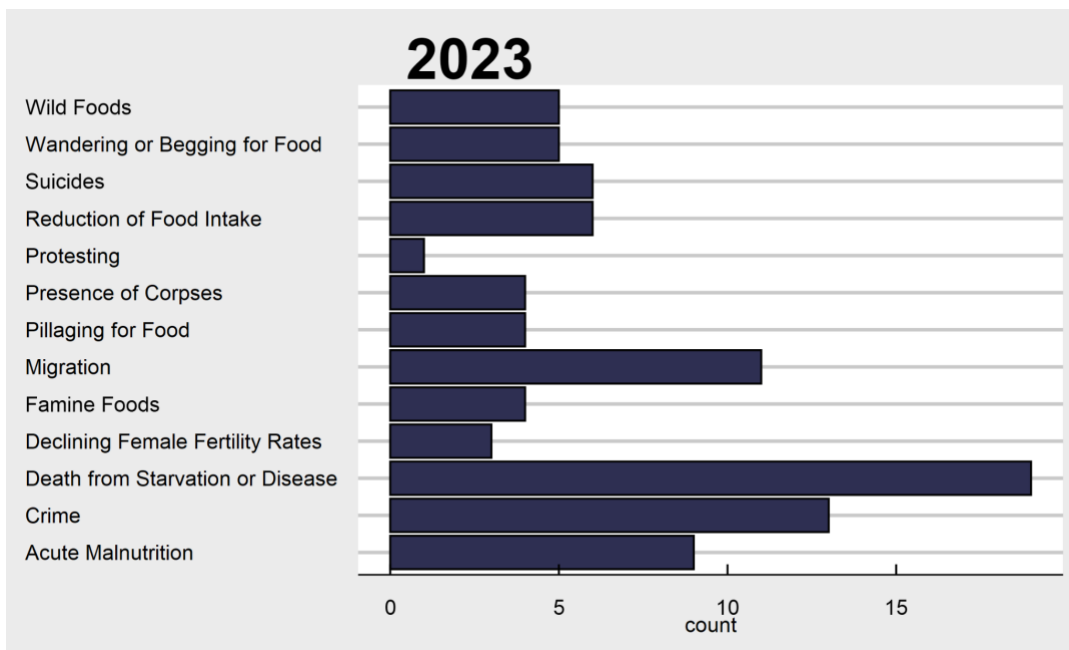
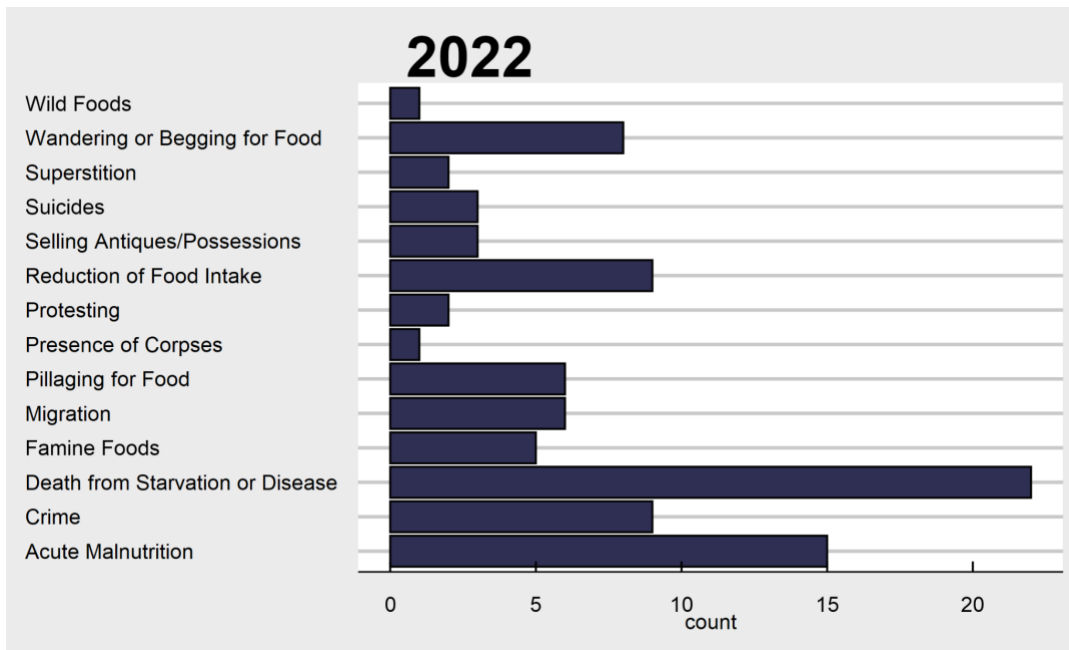
*Determining Regions and Groups Extremely Impacted*

The methodology incorporated the examination of open-source reports to identify regions and demographic groups severely affected by the economic downturn and food insecurity. This analysis sought to pinpoint specific provinces, cities, and groups—such as by profession or ethnicity—that have been most adversely impacted. This targeted approach facilitates a nuanced understanding of the DPRK's economic and food security landscape, enabling a more focused identification of those most in need of assistance or intervention.

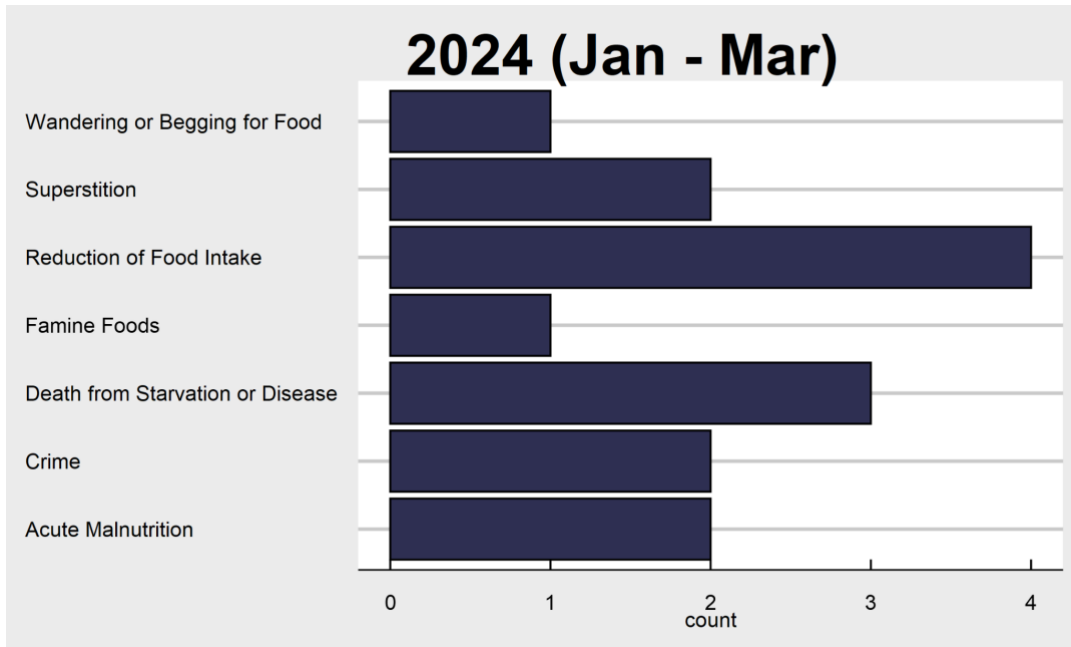
## Appendix B - Coping Mechanisms and Indicators (2018-2024)











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