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Master's Thesis of International Studies

**Famine in North Korea
(1990's to Present):
Agricultural Reform Policy and Food Security
under Kim Jong Un**

북한의 기근(1990 년대에서 현재까지):
김정은 통치하에 실시된 농업개혁 정책과 식품 안보
정책을 중심으로

August 2020

**Graduate School of International Studies
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Abstract

Famine in North Korea (1990's to Present): Agricultural Reform Policy and Food Security Under Kim Jong Un

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This study aims to unveil the truth about famine, agriculture reform policies and food security in North Korea. The study examines what truly embodies famine, its indicators and its consequences towards constituents. Furthermore, it takes a closer look into the rise of the Supreme Leader Kim Jong Un. With this in mind, it examines Kim Jong Un and his commitment to transforming North Korean society with specific emphasis on agriculture. This is an observational analysis that aims to confirm that former agricultural policies have been ineffective for a number of reasons (e.g. government and regional inconsistencies, lack of arable land, environmental issues, lack of resources etc). In addition to this, the study aims to explore whether or not Kim Jong Un is taking strategic measures to ensure food security for North Korea.

In order to evaluate and analyze, first we must take a closer look at the history of agricultural reform policies to see how they directly influence food security and famine in North Korea. Furthermore, this study will examine how the historical background directly influenced many of these

changes. The core of this research relies on the observation of agricultural developments and setbacks. This study examines Kim Jong Un's movement within the agriculture sector to examine whether the young leader is working towards securing food for the North Korean people.

Keywords: Kim Jong Un, North Korea, famine, agricultural reform policies, food security

Student Number: 2018-20279

논문 초록

북한의 기근 (1990 년대에서 현재까지):
김정은 통치하에 실시된 농업개혁 정책과 식품
안보 정책을 중심으로

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본 연구는 북한의 기근, 농업개혁 정책, 식량 안보의 진실을 밝히는 데에 목적이 있다. 따라서 무엇이 기근을 정의하고, 그의 지표와 그에 따른 결과는 무엇인지 조사하고자 한다. 나아가 본 연구는 북한의 지도자 김정은의 부상에 대해서도 고찰한다. 특히 그가 농업을 중심으로 추구하고 있는 북한 사회의 개혁에 대한 의지에 대해 알아보하고자 한다. 저자는 관찰 연구를 통해 여러 원인 (예를 들어, 중앙 정부와 지역간 정책적 모순, 경작지 부족, 환경 문제, 자원 부족 등)에 의해 농업 개혁 정책이 효과를 거두지 못했음을 확인하고, 과연 김정은이 북한의 식량 안보를 위해 전략적 판단을 하고 있는 것인지 조사하고자 한다.

평가와 분석을 위해서는 우선 농업 개혁 정책의 역사를 살펴봄으로써 그들이 식량 안보와 기근에 직접적으로 어떤 영향을 미쳤는지 알아보아야 한다. 뿐만 아니라 이 연구는 역사적 배경이 어떻게 직접적으로 이러한 변화에 영향을 끼쳤는지 조사한다. 본

연구의 핵심은 북한 농업의 발전과 발전 지연에 대한 관찰에 있다.
또한 농업 부문에 있어 김정은의 행보는 무엇인지 연구함에 따라
북한 주민의 식량 확보를 위한 노력에 관하여 조사한다.

키워드: 김정은, 북한, 기근, 농업개혁 정책, 식품 안보 정책

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Table of Contents

| | |
|--|------------|
| Abstract | i |
| Korean Abstract | iii |
| Table of Contents | v |
| List of Abbreviations, Figures and Tables | vii |
| Chapter 1. Introduction | 1 |
| Chapter 2. Literature Review | 4 |
| Chapter 3. Measuring the Indicators of Famine | 7 |
| 3.1 Measuring Famine..... | 7 |
| 3.2 Integrated Food Security Phase Classification (IPC)..... | 8 |
| 3.3 Famine Intensity and Magnitude Scales..... | 13 |
| 3.4 Crude Mortality Rate (CMR)..... | 18 |
| 3.5 Cause-Specific Mortality Rate..... | 19 |
| 3.6 Measuring Acute Malnutrition..... | 20 |
| 3.7 Importance for Food Security..... | 22 |
| Chapter 4. The North Korean Famine (1990-1998) | 24 |
| 4.1 Historical Background | 24 |
| 4.2 Mismanagement of the Economic and Agriculture Sector | 25 |
| 4.3 Climate Disturbance | 31 |
| 4.4 Government Neglect..... | 32 |
| 4.4.1 Failure in Distribution..... | 32 |
| 4.4.2 Issues Regarding International Aid Relief..... | 35 |
| Chapter 5. Food Security in North Korea | 38 |
| 5.1 Public Distribution System (PDS)..... | 39 |
| 5.2 International Aid..... | 42 |
| 5.3 Black Markets..... | 46 |
| 5.4 Ideology & Enacted Policies | 47 |
| 5.4.1 Juché Ideology (주체사상)..... | 48 |
| 5.4.2 Military First | 49 |
| 5.4.3 Two Meals A Day..... | 50 |

| | |
|--|------------|
| Chapter 6. Consequences Towards Constituents..... | 52 |
| 6.1 Death Toll & Malnutrition..... | 52 |
| 6.2 Impact on Agriculture..... | 58 |
| 6.3 Rise of Kotjebe (꽃제비)..... | 59 |
| 6.4 Continuous Struggle with Famine..... | 60 |
| Chapter 7. The Dawn of a New Era..... | 62 |
| 7.1. The Rise of Kim Jong Un..... | 62 |
| 7.1.1 Leadership and Personality Traits..... | 64 |
| 7.2. Vision Changes for North Korea..... | 65 |
| 7.2.1 North Korean Economy..... | 66 |
| 7.2.2 Nuclear Program..... | 67 |
| 7.2.3 International Political Engagement..... | 70 |
| Chapter 8. Agriculture Reform Policies..... | 75 |
| 8.1 The History of Agriculture Reforms Policies in North Korea | 75 |
| 8.2 Agriculture Reform Policy under Kim Jong Un..... | 83 |
| 8.2.1 Field Responsibility System (FRS)..... | 84 |
| Chapter 9. Observations & Analysis..... | 86 |
| 9.1 Agriculture Developments..... | 86 |
| 9.1.1 Military-run Farms..... | 87 |
| 9.1.2 Greenhouse Farms..... | 90 |
| 9.1.3 Fertilizer Plant | 92 |
| 9.1.4 Expansion of Agriculture Science Research Institutes | 94 |
| 9.1.5 Reform Policy Success..... | 95 |
| 9.2 Agriculture Setbacks..... | 96 |
| 9.2.1 Continuation of Climate Disturbance & Lack of Resources | 96 |
| 9.2.2 Unrealistic Expectations..... | 98 |
| 9.2.3 Lack of Guidance..... | 99 |
| 9.2.4 Complications due to COVID-19 Pandemic..... | 100 |
| Chapter 10. Conclusion..... | 103 |
| Bibliography..... | ix |
| Appendix..... | xvi |
| A. Interview with Professor Clark Sorenson..... | |
| Acknowledgments..... | xx |

List of Abbreviations

| | |
|---------------|---|
| BMI | Body Mass Index |
| CI | Care International |
| CMR | Crude Mortality Rate |
| DPRK | Democratic People’s Republic of Korea |
| FAO | Food and Agriculture Organization |
| FRS | Field Responsibility System |
| FSNAU | Food Security and Nutrition Analysis Unit |
| HFA | Height-for-Age |
| IMF | International Monetary Fund |
| IPC | Integrated Food Security Phase Classification |
| KPA | Korea People’s Army |
| JSA | Joint-Security Area |
| MUAC | Mid-Upper Arm Circumference |
| PDC | Public Distribution Center |
| PDS | Public Distribution System |
| SAM | Severe Acute Malnutrition |
| SWT | Sub Work Teams |
| UN | United Nations |
| UNICEF | United Nation’s Children Fund |
| USDA | United States Department of Agriculture |
| WFA | Weight-for-Age |
| WFH | Weight-for-Height |
| WFP | World Food Programme |
| WHO | World Health Organization |

List of Tables

- Table 1. Integrated Food Security Phase Classification (IPC)
- Table 2. Intensity Scale (Howe and Devereux)
- Table 3. Magnitude Scale (Howe and Devereux)
- Table 4. PDS Allocations and Population Estimates by Occupation
- Table 5. Major Agrarian Policies and Collectivization, 1946-1958
- Table 6. Major Agrarian Policies and Collectivization, 1946-1958
- Table 7. Significant Economic Policy Changes Affecting Agriculture

List of Figures

- Figure 1. Crude Mortality Rate Formula
- Figure 2. Cause-Specific Mortality Rate Formula
- Figure 3. Trade with USSR/Russia, 1985-2004
- Figure 4. Fertilizer (NPK) Consumption, 1989-2004
- Figure 5. Estimates of North Korean Grain Production, 1982-2005
- Figure 6. Public Distribution of Food
- Figure 7. Sectoral Breakdown of Reported UN and NGO Aid to North Korea
- Figure 8. Trends of Chronic Malnutrition among North Korean children per year.
- Figure 9. Percentage of acute and chronic malnutrition among North Korea children by age in 2012.

Chapter 1

Introduction

Since the beginning of time, we have witnessed some of the most devastating world events known to mankind. Ranging from war to natural disasters and from pandemic crisis to economic crisis' – these world events have internally and externally changed our lives and the world around us. As humans, our everyday choices have consequences and those choices shape our future. However, the world is an unpredictable place. While some of these decisions shape our future – they do not always define our set path in life. These world events play a role in our history and teach us how to build a better tomorrow and in doing so, teaches us the fundamentals of being human - how to build (and rebuild) from the ground up.

The most basic necessities needed to survive in today's world consist of *three things*; food, shelter and clothing. Many of us take these basic necessities for granted depending on where we are from, our social status and even cultural factors. However, there are many people worldwide suffering without these essentials. Amongst the three, Food is still an issue that plagues many parts of the world today – ranging from the Democratic People's Republic of Korea to South Sudan.

In the 1990's North Korea faced a deadly famine that led the country to do the unthinkable to ensure their livelihood. This arose after the Soviet Union collapsed in 1990 and the death of the Eternal Leader, Kim Il Sung in

1994. In the end, North Korea was face with deaths that range from 600,000-880,000. To date, North Korea continues to struggle with food security and provide its citizens with one of the most basic of necessities known to humans.

As this continues to be a struggle for North Korea, we cannot help but dive deeper to gain insight into why famine and food security is a continuous battle for North Korea. *Additionally, this study searches to confirm that former agricultural policies have been ineffective thus far in North Korea due to government mismanagement including the lack of equipment and resources necessary to run the agricultural sector in North Korea. While at the same time showing that Kim Jong Un is strategically taking measures to ensure food security for North Korea by introducing the Field Responsibility System. A system in which farmers must give a portion of the yield to the government (for PDS) whilst allowing the farmers to keep the remaining yield. Not to mention, that Kim Jong Un is taking measures to improves the agriculture sector as a whole.*

Additionally, through observation we will examine how Kim Jong Un is working to develop alternative forms of field farming by expanding sustainable greenhouse and military-runs farms. Furthermore, that Kim Jong Un is working to resolve the issue of ecologically damaging agricultural policies that led to over over-fertilization of crops in the 1990s.

In order to analyze all of this, we must take a comprehensive look at famine itself, it's indicators, past and present food security and agricultural

policies. Without which, the hypothesis would be without concrete evidence to back up the claims in which have been previously revealed.

To secure this conclusion, we will explore a collection of data from past and present to show the crisis in the agricultural sector during the famine and the explore the North Korean citizen's dependency on the PDS (Public Distribution System). Then, we can examine how food security has been dealt with in the past by taking a closer look at how food security was obtained during times of food shortage in North Korean (through PDS, International Aid, Black Markets and government enacted policies). In the last sections of the thesis, we will take a look at the agricultural reform policies (past and present) and then observe and analyze these policies in terms of agricultural developments and setbacks for North Korea.

While the topic at hand has a fair amount of data regarding the famine and food security in the 1990s – the same cannot be said for present day data from North Korea. Therefore, in order to conduct research on the topic at hand we must be conduct observation and analysis through documenting Kim Jong Un's involvement in the agriculture sector in the Democratic People's Republic of Korea (DPRK) to find out whether or not if measures are being taken to provide substantial food security to the North Korean people.

Chapter 2. Literature Review

Regarding literature that has played a significant role in the research of famine, food security and agricultural reform policy – there have been a number of scholars who have touched upon the topic. However, the topic is still not one of heavy discussion as North Korean remains a very private nation with limited outside sources. Despite this, there are a fair number of scholars whose research will play a significant role in defending my hypotheses. In the following section, these scholars and their works will be recognized and their significance to my research will be proposed.

There are three authors in which I place significant relevance to in terms of famine, food security and reform policy research. Stephan Haggard and Marcus Nolan are two notable scholars who wrote *Famine in North Korea: Markets, Aid and Reform*, one of the most notable books to date which presents some of the most compelling evidence on the historical aspects of famine, their causes, food security as well as reform in North Korea. One of the most fundamental purposes of using this book is the vast amount of data it contains. While the book itself, may seem outdated as it was published in 2009. It still contains some of the most important and relevant data we have in terms of famine and food security regarding North Korea. In the research the authors guide you through the early stage of famine and the aftermath while discussing the regimes response to seek foreign aid and the policies they enacted as a result regarding the economic and agriculture

sector. In addition, it talks about the failures in the PDS system which play an essential role in how food security was handled in the 1990s. For my research, I used a variety of data and information from this book. However, the largest roles it played as regarding the historical aspects of the famine (causes and aftereffects) and how food security methods North Korea used to eliminate food scarcity during the famine.

The next prominent author is *The North Korean Economy: Between Crisis and Catastrophe* which was published by Nicholas Eberstadt in 2006. His books contain primarily information about the failures in North Korea's economy as well as its policies which haven't hindered the nation greatly. In my thesis, I used a mostly policy information regarding economic and agriculture. His research is quite significant because it thoroughly explains challenges ranging from the collapse of the Soviet Union to current food crisis'. It really encapsulates the challenges North Korea dealt with and continues to deal with today. Additionally, this book is an excellent source on policy in North Korea which was an essential component in my research.

As the last two books were published many years ago, I needed to find a resource that could provide relevant information regarding the agricultural sector – including reform. However, this proved rather difficult. The best option for information regarding the beginning stages of agriculture reform and Kim Jong Un's rise to power was none other than *The Real North Korea: Life and Politics in the Failed Stalinist Utopia* by Andrei Lankov. The book details party politics and everyday life in the

Democratic People's Republic of Korea. He provides a historical outlook with an emphasis of political leadership including the accession of Kim Jong Un and his place as the Supreme Leader of North Korea. This would be significant in my research as it my research relies heavily on the actions of Kim Jong Un in order to confirm whether or not he is working toward maintaining food security in North Korea. Therefore, this book provided essential research that help aid in my research.

Beyond books, my research had to rely heavily on news and other media. As you know, new data is not the easiest to obtain regarding North Korea. Therefore, my observation and analysis had to provide existential proof that Kim Jon Un was making efforts toward maintaining food security in North Korea. To accomplish this, I researched various respected news sources to track and trace the movements of Kim Jong Un within the agricultural sector and his involvement as the leader of North Korea. This proved to have worthy results as there were numerous reports and images of his involvement in agriculture development.

Overall, there were many elements that went into the research of my topic and that were many key contributors to the defense of my hypothesis. While North Korea's data and information may seem scarce and non-existence – I would say my research and the research of many scholars would prove otherwise.

Chapter 3

Measuring the Indicators of Famine

Throughout the years, many researchers and scientists have claimed to develop ways to measure and indicate the onset of famine and malnutrition - regardless of specific geological location. In this section, we will focus on a specific method in which famine and malnutrition (caused by famine) can be measured in order to determine the severity of the situation at hand. Furthermore, we will look into why these are important factors in regard to food security.

3.1 Measuring Famine

Measuring Famine is a specific and coordinated method of research. Famine, in general, must meet a specific guideline and criteria in order to be categorized into the fixed label one calls *Famine*. There have been some methods in which were introduced early on that led to the extension of research on the topic. “Developed in the 1880s by the British colonial regime, the Famine Codes were an attempt to codify administrative responses to food crises, partly as a policy response to a sequence of famines in several Indian states between 1860 and 1877, and partly as a political effort to shore up the legitimacy of British rule (Brennan, 1984;

Drèze, 1990).”¹ The Famine Codes consisted of three tiers of food security crisis; near-scarcity, scarcity and famine. This development by the British colonial regime, would be considered one of the pivotal starting points for measuring and determining a food security crisis not only in Asia but around the world as well. In the past, these systems were essential in order to provide analysis of the situation at hand and communication to authority figures to make the necessary decisions on food security. Today, we have a number of tools that can help calculate the intensity and magnitude of famine and the indicators in which famine can arise.

3.2 Integrated Food Security Phase Classification (IPC)

The Integrated Food Security Phase Classification (IPC) is a classification scale that categorizes the severity of food security into five different phases. This scale was first introduced in 2004 by FAO (Food and Agriculture Organization of the United Nations) sub-unit FSNAU (Food Security and Nutrition Analysis Unit) and used to analyze the severity of food scarcity in Somalia. However, currently this is classification scale that is globally used to determine the severity of food security worldwide. The scale ranges from Phase 1A (Generally Food Secure) to phase 5 (Famine/Humanitarian Catastrophe). Within each phase classification there are Key References Outcomes and Strategic Response Framework. These

¹ Howe, Paul, and Stephen Devereux. "Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine." *Disasters* 28.4 (2004): 353-72.

refer to “Current of imminent outcomes on lives and livelihoods. Based on convergence of direct and indirect evidence rather than absolute thresholds. Not all indications must be present for classification.”² Key References Outcomes include but are not limited to; Crude Mortality Rate (CMR), Acute Malnutrition, Stunting, Food Access/Availability, Dietary Diversity, Water Access/Availability, Hazards, Civil Security and Livelihood Assets. Upon the creation of this specific scale, FAO determined that these are the most valuable determinates when contemplating and categorizing famine as they explore multiple dimensions which implicitly and collectively affect Famine. Therefore, this takes into account not only the evident biophysical aspects that are effect citizens in terms of famine but the environmental factors in which evidently cause famine. In terms of Strategic Response Framework, it explores two difference objectives. “[...] Strategic Response Framework that provides strategic, yet generic, guidance for achieving three objectives: (1) Mitigate immediate outcomes, (2) support livelihoods, and (3) address underlying causes.”³ This is essential in terms of creating strategic plans in order to not only combat famine but to confront the underlying causes of famine through strategic framework and policy. Once the IPC scale is determined, it is up to the nation and various world

² “Integrated Food Security and Phase Classification - Technical Manual Version 1.1.” *Food and Agriculture Organization of the United Nations*, P.4 www.fao.org/3/i0275e/i0275e.pdf.

³ “Integrated Food Security and Phase Classification - Technical Manual Version 1.1.” *Food and Agriculture Organization of the United Nations*, P.12 www.fao.org/3/i0275e/i0275e.pdf.

organizations to address this issue through whatever strategic processes to provide relief to human lives within those confined areas. There are many different versions of the IPC Scale – however, it is extremely critical that the full IPC scale is used when conclusively working to classify and determine the severity of famine. Despite this, we must acknowledge that the IPC scale does not categorically examine the sectors within a society to determine a food security issue. Additionally, “The IPC does not replace the existing food security information systems and methodologies. It is a complimentary “add-on” that draws from and provides focus to existing analytical systems, enables comparability, and explicitly links analysis to action.”⁴ The sole concentration of the IPC scale is to analyze food security through the strategic examining of the humanitarian issues that arise from food security issues. Furthermore, additional purpose is to examine the many aspects and determinates of food security through analysis to provide scientific evidence to determine the appropriate scale of famine.

⁴ “Integrated Food Security and Phase Classification - Technical Manual Version 1.1.” *Food and Agriculture Organization of the United Nations*, P.2 www.fao.org/3/i0275e/i0275e.pdf.

Table 1. Integrated Food Security Phase Classification (IPC)

| Phase Classification | | Key Reference Outcomes <i>Current or imminent outcomes on lives and livelihoods. Based on convergence of direct and indirect evidence rather than absolute thresholds. Not all indicators must be present for classification..</i> | Strategic Response Framework <i>Objectives: (1) mitigate immediate outcomes, (2) support livelihoods, and (3) address underlying causes</i> |
|----------------------|---------------------------------------|---|---|
| 1A | Generally Food Secure | <p>Crude Mortality Rate < 0.5 / 10,000 / day</p> <p>Acute Malnutrition <3 % (w/h <-2 z-scores)</p> <p>Stunting <20% (h/age <-2 z-scores)</p> <p>Food Access / Availability usually adequate (> 2,100 kcal ppp day), stable</p> <p>Dietary Diversity consistent quality and quantity of diversity</p> <p>Water Access / Avail. usually adequate (> 15 litres ppp day), stable</p> <p>Hazards moderate to low probability and vulnerability</p> <p>Civil Security prevailing and structural peace</p> <p>Livelihood Assets generally sustainable utilization (of 6 capitals)</p> | <p>Strategic assistance to pockets of food insecure groups</p> <p>Investment in food and economic production systems</p> <p>Enable development of livelihood systems based on principles of sustainability, justice, and equity</p> <p>Prevent emergence of structural hindrances to food security</p> <p>Advocacy</p> |
| 1B | Generally Food Secur | <p>Crude Mortality Rate <0.5 / 10,000 / day; U5MR<1 / 10,000 / day</p> <p>Acute Malnutrition >3% but <10 % (w/h <-2 z-score), usual range, stable</p> <p>Stunting >20% (h/age <-2 z-scores)</p> <p>Food Access / Availability borderline adequate (2,100 kcal ppp day); unstable</p> <p>Dietary Diversity chronic dietary diversity deficit</p> <p>Water Access / Avail. borderline adequate (15 litres ppp day); unstable</p> <p>Hazards recurrent, with high livelihood vulnerability</p> <p>Civil Security Unstable; disruptive tension</p> <p>Coping "insurance strategies"</p> <p>Livelihood Assets stressed and unsustainable utilization (of 6 capitals)</p> <p>Structural Pronounced underlying hindrances to food security</p> | <p>Design & implement strategies to increase stability, resistance and resilience of livelihood systems, thus reducing risk</p> <p>Provision of "safety nets" to high risk groups</p> <p>Interventions for optimal and sustainable use of livelihood assets</p> <p>Create contingency plan</p> <p>Redress structural hindrances to food security</p> <p>Close monitoring of relevant outcome and process indicators</p> <p>Advocacy</p> |
| 2 | Moderately / Borderline Food Insecure | <p>Crude Mortality Rate 0.5-1 / 10,000 / day, U5MR 1-2 / 10,000 / dy</p> <p>Acute Malnutrition 10-15 % (w/h <-2 z-score), > than usual, increasing</p> <p>Disease epidemic; increasing</p> <p>Food Access / Availability lack of entitlement; 2,100 kcal ppp day via asset stripping</p> <p>Dietary Diversity acute dietary diversity deficit</p> <p>Water Access / Avail. 7.5-15 litres ppp day, accessed via asset stripping</p> <p>Destitution / Displacement emerging; diffuse</p> <p>Civil Security limited spread, low intensity conflict</p> <p>Coping "crisis strategies"; CSI > than reference; increasing</p> <p>Livelihood Assets accelerated and critical depletion or loss of access</p> | <p>Support livelihoods and protect vulnerable groups</p> <p>Strategic and complimentary interventions to immediately food access / availability AND support livelihoods</p> <p>Selected provision of complimentary sectoral support (e.g., water, shelter, sanitation, health, etc.)</p> <p>Strategic interventions at community to national levels to create, stabilize, rehabilitate, or protect priority livelihood assets</p> <p>Create or implement contingency plan</p> <p>Close monitoring of relevant outcome and process indicators</p> <p>Use "crisis as opportunity" to redress underlying structural causes</p> <p>Advocacy</p> |
| 3 | Acute Food and Livelihood Crisis | <p>Crude Mortality Rate 1-2 / 10,000 / day, >2x reference rate, increasing; U5MR > 2 / 10,000 / day</p> <p>Acute Malnutrition >15 % (w/h <-2 z-score), > than usual, increasing</p> <p>Disease Pandemic</p> <p>Food Access / Availability severe entitlement gap; unable to meet 2,100 kcal ppp day</p> <p>Dietary Diversity Regularly 3 or fewer main food groups consumed</p> <p>Water Access / Avail. < 7.5 litres ppp day (human usage only)</p> <p>Destitution / Displacement concentrated; increasing</p> <p>Civil Security widespread, high intensity conflict</p> <p>Coping "distress strategies"; CSI significantly > than reference</p> <p>Livelihood Assets near complete & irreversible depletion or loss of access</p> | <p>Urgent protection of vulnerable groups</p> <p>Urgently food access through complimentary interventions</p> <p>Selected provision of complimentary sectoral support (e.g., water, shelter, sanitation, health, etc.)</p> <p>Protection against complete livelihood asset loss and / or advocacy for access</p> <p>Close monitoring of relevant outcome and process indicators</p> <p>Use "crisis as opportunity" to redress underlying structural causes</p> <p>Advocacy</p> |
| 4 | Humanitarian Emergency | <p>Crude Mortality Rate > 2 / 10,000 / day (example: 6,000 / 1,000,000 / 30 days)</p> <p>Acute Malnutrition > 30 % (w/h <-2 z-score)</p> <p>Disease Pandemic</p> <p>Food Access / Availability extreme entitlement gap; much below 2,100 kcal ppp day</p> <p>Water Access / Avail. < 4 litres ppp day (human usage only)</p> <p>Destitution / Displacement large scale, concentrated</p> <p>Civil Security widespread, high intensity conflict</p> <p>Livelihood Assets effectively complete loss; collapse</p> | <p>Critically urgent protection of human lives and vulnerable groups</p> <p>Comprehensive assistance with basic needs (e.g. food, water, shelter, sanitation, health, etc.)</p> <p>Immediate policy / legal revisions where necessary</p> <p>Negotiations with varied political-economic interests</p> <p>Use "crisis as opportunity" to redress underlying structural causes</p> <p>Advocacy</p> |
| 5 | Famine / Humanitarian Catastrophe | <p>Crude Mortality Rate > 2 / 10,000 / day (example: 6,000 / 1,000,000 / 30 days)</p> <p>Acute Malnutrition > 30 % (w/h <-2 z-score)</p> <p>Disease Pandemic</p> <p>Food Access / Availability extreme entitlement gap; much below 2,100 kcal ppp day</p> <p>Water Access / Avail. < 4 litres ppp day (human usage only)</p> <p>Destitution / Displacement large scale, concentrated</p> <p>Civil Security widespread, high intensity conflict</p> <p>Livelihood Assets effectively complete loss; collapse</p> | <p>Critically urgent protection of human lives and vulnerable groups</p> <p>Comprehensive assistance with basic needs (e.g. food, water, shelter, sanitation, health, etc.)</p> <p>Immediate policy / legal revisions where necessary</p> <p>Negotiations with varied political-economic interests</p> <p>Use "crisis as opportunity" to redress underlying structural causes</p> <p>Advocacy</p> |

Source: FAO (Food and Agriculture Organization)

While the IPC is an excellent scientific source that compliments the already existing indicators of famine, it is worth mentioning the IPC scale is one of the most (if not most) detailed classification system of its kind. According to FAO, “a classification system needs to enable: Technical Consensus, Comparability Over Space, Comparability Over Time, Transparency through Evidence Based Analysis, Accountability, Effective Early Warning, and More Strategic Response.”⁵ Therefore, many different categorical aspects are specifically integrated into classification systems which make them far more complex and concentrated in terms of analysis.

As we explore this classifications scale, we cannot conclude and say this system is perfect in terms of famine analysis. “Furthermore, the methodologies that are used to obtain these values are complex and challenging and require specialized knowledge in conducting and interpreting their results. The need for accurate, but not necessarily precise, measures of critical population health information means that we sometimes have a larger margin of error than we’d like – but sometimes you just have to live with imperfect data.”⁶ This unfortunately, is the reality of universal classification scales. However, as each famine is inherently different

⁵ “Integrated Food Security and Phase Classification - Technical Manual Version 1.1.” *Food and Agriculture Organization of the United Nations*, P.8 www.fao.org/3/i0275e/i0275e.pdf.

⁶ Nickerson, Jason. “Measuring Famine – Scales, Indicators and Thresholds.” *Jason Nickerson*. 23 July 2011. <http://www.jasonnickerson.ca/blog/measuring-famine-scales-indicators-and-titles/>

according to where it takes place and under what circumstances – it us up to the people of that geographical location to take a number of other indicators into consideration along with the IPC scale.

With IPC being one of the newer developed famine classification scales, we can surely see that many factors were analyzed and distributed into the development and creation of the IPC Scale.

3.3. Famine Intensity and Magnitude Scales

In terms of famine, there are a variety of scales and charts that can help to concentrate on the intensity and magnitude of famine regardless of specific epicenter. For one, “A system of intensity levels can be used to identify the severity of conditions in a given area and to make comparisons with the situation in other areas, or in the same location at other times. An intensity level would be assigned to the population area using a combination of anthropometric and mortality indicators, as well as food-security descriptors.”⁷ Therefore, a famine intensity scale is very similar in the ways in which the IPC scale displays itself. This intensity range is measured from level 0-5 very similar to the IPC scale. However, this scale is purely looking at *only* two indicators to propose a phrase designation in regard to famine classification. In this, the researchers have found that in order to calculate

⁷ Howe, Paul, and Stephen Devereux. “Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine.” *Disasters*, vol. 28, no. 4, 2004, pp. 353–372.

classification the prospective intensity of a famine – one must look into the lives of the people by examining the *malnutrition* and *mortality indicators* within said region. Only then will they be able to look into the livelihood and food security descriptors. Within each phase, you will be able to see the calculated indicators alongside a clear description of the types of situations the region and or said nation would be subject to.

Table 2. Intensity Scale

Table 2 Intensity scale¹⁵

| <i>Levels</i> | <i>Phrase designation</i> | <i>'Lives': malnutrition and mortality indicators</i> | <i>'Livelihoods': food-security descriptors¹⁶</i> |
|---------------|----------------------------|--|--|
| 0 | Food-security conditions | CMR < 0.2/10,000/day and Wasting < 2.3% | Social system is cohesive; prices are stable; negligible adoption of coping strategies. |
| 1 | Food-insecurity conditions | CMR ≥ 0.2 but < .5/10,000/day and/or Wasting ≥ 2.3 but < 10% | Social system remains cohesive; price instability, and seasonal shortage of key items; reversible 'adaptive strategies' are employed. |
| 2 | Food crisis conditions | CMR ≥ .5 but < 1/10,000/day and/or Wasting > =10 but < 20% and/or prevalence of Oedema | Social system significantly stressed but remains largely cohesive; dramatic rise in price of food and other basic items; adaptive mechanisms start to fail; increase in irreversible coping strategies. |
| 3 | Famine conditions | CMR ≥ 1 but < 5/10,000/day and/or Wasting > =20% but < 40% and/or prevalence of Oedema | Clear signs of social breakdown appear; markets begin to close or collapse; coping strategies are exhausted and survival strategies are adopted; affected population identify food as the dominant problem in the onset of the crisis. |
| 4 | Severe famine conditions | CMR > 5= but < 15/10,000/day and/or Wasting > = 40% and/or prevalence of Oedema | Widespread social breakdown; markets are closed or inaccessible to affected population; survival strategies are widespread; affected population identify food as the dominant problem in the onset of this crisis. |
| 5 | Extreme famine conditions | CMR > =15/10,000/day | Complete social breakdown; widespread mortality; affected population identify food as the dominant problem in the onset of the crisis. |

CMR: crude mortality rate.

Wasting: proportion of child population (six months to five years old) who are below 80 per cent of the median weight-for-height or below -2 Z-score weight-for-height (cf. NCHS, 1977).

Source: Howe and Devereux (2004)

The intensity scale was developed and created by Paul Rowe and Stephen Devereux in the Institute of Development Studies at the University of Sussex. While these scales may seem little in nature, and not nearly as detailed as the IPC scale. They do offer a way to calculate and research the types of effects famine may have on constituents within the particular region that is suffering from famine. They also provide comparison figures to examine similar situations worldwide. If a particular country is suffering from famine, we can use this scale to examine the severity of Famine across the regions. Where in some regions it could be Level 2, other regions could be Level 4. Through this we can do cross comparison and alert early warning systems to closely monitor the issue on hand. Most importantly, the famine Intensity Scale can provide equal data of regional support – therefore, it can provide more aid to those who need it vs. those that are not in extreme need. Overall, it is an essential part of measuring famine and provides comparative information that can help to diminish the level of famine by regional comparison.

The Magnitude scale was designed by Howe and Devereux to work alongside the intensity scale in order to classify and categorize the severity of famine within a specific region. “Given the practical difficulty of measuring all the impacts of a humanitarian crisis — including its macroeconomic, socio-cultural, psychological and other consequences —

‘magnitude’ refers here to the scale of human suffering caused by the entire crisis, as proxied by excess mortality.”⁸

Table 3. Magnitude Scale

| Table 3 Magnitude scale | | |
|--------------------------------|---------------------------|------------------------|
| <i>Category</i> | <i>Phrase designation</i> | <i>Mortality range</i> |
| A | Minor famine | 0–999 |
| B | Moderate famine | 1,000–9,999 |
| C | Major famine | 10,000–99,999 |
| D | Great famine | 100,000–999,999 |
| E | Catastrophic famine | 1,000,000 and over |

Source: Howe and Devereux (2004)

To further explain this chart, the magnitude scale is categorically divided into five sections labeled A-to-E with each specifying a phrase designation of famine. Within that designation, there is a mortality range consisting of five different levels (one for each category). Using these types of scales allows the analysis conductor to make a precision-based calculation on the analysis. “For instance, a small population area may experience ‘level 4: severe famine conditions’, but the crisis, because it involves a limited population, will register as a ‘minor famine’. The scales allow concerned stakeholders to acknowledge the intensity of the crisis in

⁸ Howe, Paul, and Stephen Devereux. “Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine.” *Disasters*, vol. 28, no. 4, 2004, pp. 353–372.

that area, but at the same time, to distinguish the magnitude of this localised crisis from those that involve larger and more widespread populations.”⁹

The intensity and magnitude scales are used not only to provide the public with answers to the severity of famine but at the hopes of catching the eyes of the government and policymakers so that relief can be organized and enacted. “Ideally, policymakers will recognise that the best way to reduce the risk of famine is to tackle its underlying causes, which implies implementing a broader range of policies that protect and promote long-term livelihoods, as well as establishing effective safety nets.”¹⁰

Unfortunately, in numerous countries worldwide – it is equivocally the case that governments direct immediate attention to other areas until food security becomes a severe issue plaguing the nation. Or, in the case of countries that lack human rights, it becomes an issue gradually whilst gaining speed becoming a tunnel of despair for those living in those societies. Similar to the case of the famine that wreaked havoc during the 1990’s in North Korea – we see that the DPRK attempted to used domestic policy in order to secure their food – through policies like military first or two-meals-a-day. Every country and case of famine is different from another and no two are distinctly the same. With the implementation of the IPC scale, and the intensity and magnitude scale (which are newly

⁹ Howe, Paul, and Stephen Devereux. “Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine.” *Disasters*, vol. 28, no. 4, 2004, pp. 353–372.

¹⁰ Howe, Paul, and Stephen Devereux. “Famine Intensity and Magnitude Scales: A Proposal for an Instrumental Definition of Famine.” *Disasters*, vol. 28, no. 4, 2004, pp. 353–372.

established indicators) – policymakers have access to policy recommendations that can halt widespread famine. Furthermore, they can help policymakers understand not only the severity of the issues but the amounts of food scarcity and can act accordingly to secure food through a variety of methods – whether that be collective regional distribution, international aid or a number of other sources.

3.4 Crude Mortality Rate

There are a variety of ways in which one can measure mortality. There are many types of mortality rates ranging from Crude Mortality Rate (CMR) to Under-5 Mortality Rate. However, within this thesis we will concentrate purely on Crude Mortality Rate and Cause-Specific Death Rate as they are directly related to famine in North Korea. Crude Mortality Rate counts all deaths (regardless of cause of death, age or sex) within a stated population. The numerator consists of the total number of deaths during a given time interval while the denominator consists of the overall population.

Figure 1. Crude Mortality Rate Formula

$$\text{Crude Death Rate} \leftarrow \frac{\text{total number of deaths during specific time period}}{\text{population size}} \times 100,000$$

Source: Cheever (2020)

This formula allows us to examine the number of deaths in an entire population. While this is an important factor in the understanding death rates globally – it doesn't factor in the specific *reason* people within the population die.

3.5 Cause-Specific Mortality Rate

There are numerous ways in which we can examine cause-specific death rates. Using the Cause-Specific Mortality Rate, we can calculate the specific death rates using two specific factors. The basic formula uses the deaths during a specified sub-period as the numerator and the population at risk as the denominator. With this calculation, we can look at the rate in which death is occurring due a specific cause effecting the overall population. This type of calculation is generally best used when calculating the mortality rate of various events such as; terrorist attacks, injuries, and even famine. The formula is as follows:

Figure 2. Cause Specific Mortality Rate

$$\text{Cause Specific Death Rate} \leftarrow \frac{\text{Number of deaths from specific cause}}{\text{Population at risk (entire)}} \times 100,000$$

Source: Cheever (2020)

This formula is critical to the study of cause-specific deaths because without proper calculations we would fail to recognize the amount of deaths within a population due to causes such as; famine, war and certain diseases. “Many developing countries have mortality patterns that reflect high levels of infectious diseases and the risk of death during pregnancy and childbirth, in addition to the cancers, cardiovascular diseases and chronic respiratory diseases that account for most deaths in the developed world.”¹¹ Therefore, it is imperative that we use these measurements in order to fully understand the ramifications we face due to lack of food security.

3.6 Measuring Acute Malnutrition

Measuring Acute Malnutrition is an important indicator that we must take into consideration when considering how to determine the effects and severity of famine. There are many different categories of acute malnutrition, however, severe acute malnutrition (SAM) will be the main focus in regard to famine indicators. “Severe acute malnutrition is defined by a very low weight for height (below -3z scores of the median WHO growth standards), by visible severe wasting, or by the presence of nutritional oedema.”¹² It is deemed the most severe and is the direct result of

¹¹ “Cause-Specific Mortality and Morbidity - Health Statistics 2009.” *World Health Organization (WHO)*, 2009, www.who.int/whosis/whostat/EN_WHS09_Table2.pdf.

¹² “Severe Acute Malnutrition.” *World Health Organization*, World Health Organization, 22 May 2009, www.who.int/nutrition/topics/malnutrition/en/.

being malnourished regardless of purpose or cause. Typically, children suffering from SAM are at a low weight for their height, have visible oedema, and are skeletal with swollen faces and limbs. “Across the globe, an estimated 16 million children under the age of 5 are affected by severe acute malnutrition. This number is staggering – most importantly, because children with severe acute malnutrition are nine times more likely to die than well-nourished children.”¹³ During the Famine in North Korea, North Korea saw the effects of severe acute malnutrition amongst children and suffered detrimental harm that would last the lifetime of those who survived the famine. There are a number of things to take into consideration when measuring acute malnutrition. First, you must examine to see if the child is suffering from severe wasting. Severe wasting can be described as extreme weight loss, loss of excessive amounts of fat and muscle. This leads children with severe acute malnutrition to look skeletal and fail. Secondly, we must examine to see if the child has bilateral pitting oedema. Oedema is simply “when thumb pressure is applied to top of both feet for three seconds and leaves a pit or indentation in the food, after the thumb is lifted”¹⁴ This is a major indicator of SAM but only one of the many factors taken into

¹³ “Severe Acute Malnutrition.” *UNICEF*, 23 Dec. 2015, www.unicef.org/nutrition/index_sam.html.

¹⁴ “Types of Acute Malnutrition.” *Action Against Hunger*, actionagainsthunger.ca/what-is-acute-malnutrition/types-of-acute-malnutrition/.

consideration when trying to conclusively diagnose severe acute malnutrition. Third, we look into MUAC (Mid-Upper Arm Circumference). A MUAC measurement < 110 mm is deemed to be below moderate acute malnutrition (MAM) MUAC measurements – therefore, categorically putting the child into severe acute malnutrition phase classification. Fourth, we look into weight-for-height (WFH) z-score that place < -3 according to WHO (World Health Organization) standard. If unavailable or alternative method required, we look into the WFH as a percentage of the median that is $< 70\%$. If a child is to be symptomatic with any of the symptoms, they would be deemed malnourished. If exhibiting symptoms of all, they would be categorized as severe acute malnutrition. The measurement of SAM may seem a bit misunderstood in relation to food security. However, it can be assured that it serves a significant purpose in terms of not only food security but providing humanitarian assistance in retrospect.

3.7 Importance for Food Security

One might wonder, what do the measuring the indicators have to do in relation to food security? The answer is simple – they provide relative analysis of the severity and direct consequences of famine. Without indicators like CMR and SAM, it would be relatively impossible to understand the effects on children during times of extreme food insecurity. Furthermore, it would provide difficulty in terms of phase classification in terms of IPC and Intensity and Magnitude scales without measurements of

CMR and SAM involved. These indicators work side-by-side to help provide answers towards one of the world's largest humanitarian issues – famine and food security. Additionally, these indicators provide historical analysis of former famines and warn us of the early warning signals in order to avoid repeating historical travesties. Therefore, these measurements are essential to the study of famine and food security in North Korea. They continue to provide the research and calculations to alert early warning systems to react accordingly to recommendations from experts worldwide. These indicators will be discussed further in a later section to showcase the importance to the study of food security and famine.

Chapter 4

The North Korean Famine

4.1. Historical Background

In the dawn of a new decade – the Democratic People’s Republic of Korea (DPRK), also known as North Korea, awoke to the onset of Famine in the early 1990’s. Little did the people of North Korea suspect that a tidal wave of events could lead them into despair and hunger that would spread across nearly a decades time. “Famines produce countless personal tragedies: watching love one’s waste away from hunger and disease; making fateful choices about the scarce food; migrating to escape the famine’s reach; and, all too often, facing the stark reality that these coping strategies are futile.”¹⁵ These were the harsh realities of those living in North Korea during the famine that took place from 1990-1998. The estimated death toll ranges from six hundred thousand to 1 million deaths due to famine related causes. In comparison to the population, this would mean that between 3 and 5 percent of the North Korean population perished as a result of famine.¹⁶ There are several causes – not one less significant than the rest. In this section, we dive into the historical context leading up to and during the

¹⁵ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

¹⁶ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

famine. Exploring the mismanagement of the economic and agricultural sectors whilst looking to the climate disturbance and government neglect that were both prominent issues during this time period.

4.2 Mismanagement within the Economic and Agriculture Sectors

From the beginning, many significant events took place during the famine that could, in whole, contributed to the devastation. However, mismanagement of the economic and agricultural sectors is seemingly one of the main contributors to the severity of the Famine. “The crisis of the 1990s had its origins in a complex set of external and internal developments that began to unfold in the late 1980s. Notwithstanding its claims to self-reliance, North Korea had in fact long been dependent on outside assistance, with first the Soviet Union and later China playing the role of patron.”¹⁷ North Korea and the Soviet Union have shared a strong bond since the establishment of the DPRK on September 9th 1948. After the 38th parallel divided the peninsula in 1945 – the country was consequentially split into two countries - North Korea (북한) and South Korea (대한민국). The North was occupied by the Soviet Union while the South was occupied by the United States. Due to the close relationship and contact with the Soviet Union, North Korea relied substantially on the Soviet Union for a number of things including; aid, imported and exported goods. However, it relied on

¹⁷ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

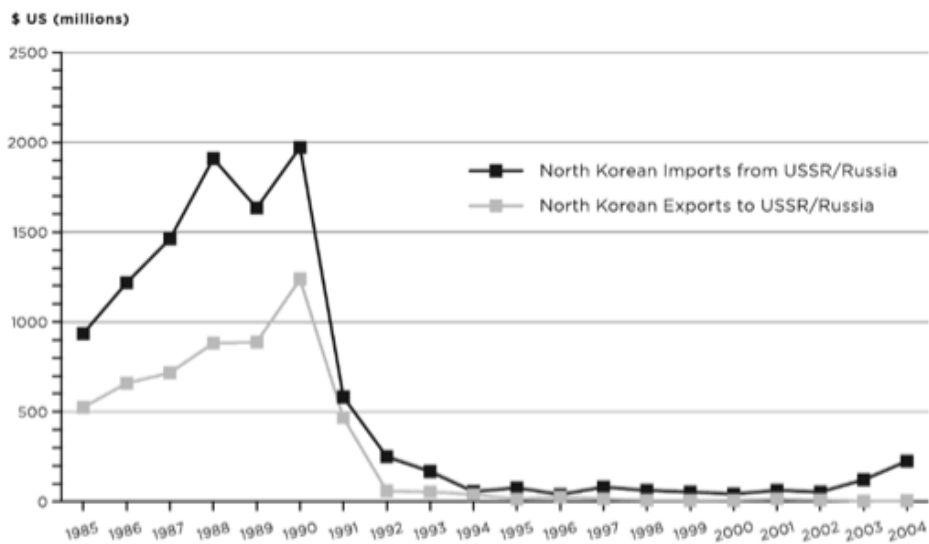
the Soviet Union for resources like coal and oil as well. As the Soviet Union began to experience the destabilization of communist control under Gorbachev – the two countries would end up lessening involvement with one another in terms of export and import.

Prior to the onset of the famine, “Facing economic constraints of its own and perhaps frustrated North Korean unwillingness to repay accumulated debts, the Soviet Union began to cut aid and reduce its support beginning in 1987.”¹⁸ It wasn’t until the 1990’s that the Soviet Union collapse forcing an unforeseeable economic shock to North Korea. This ultimately would lead to drastic decreases in imported goods from the Soviet Union – the Soviet Union had branched out to communicate with South Korea about North Korea. Additionally, “By 1993 imports from Russia were only 10 percent of their 1987-90 average and subsequently declined to irrelevance.”¹⁹ Below a table lists the dramatic decrease in trade between the USSR/Russia and the DPRK between 1985 and 2004.

¹⁸ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

¹⁹ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

Figure 3. Trade with USSR/Russia, 1985-2004



Source: Eberstadt 2003 for 1985-2001; IMF 2006 for 2003-2004

*Note: Eberstadt data reported as exports from the Soviet Union/Russia. 10% c.i.f./f.o.b. adjustment made

As you can see from the above data provided by Eberstadt and IMF, the DPRK experienced a massive drop in imports from the Soviet Union. This pattern continued at a downward trail showing very little variation until 2003 when the numbers began to gradually increase. This figure is an excellent example of show extreme the circumstances were after the fall of the Soviet Union. Without proper and extended support from the Soviet Union, the DPRK was faced with an unimaginable economic shock that would last for many years to follow.

Korea had placed all of their reliance on a failing system and the country was not equip with the resources necessary to come out unscathed.

However, North Korea was facing additional difficulties – with the dwindling imports came the shock of military technology dissipation, which

was a major source of foreign exchange for North Korea. With only a few options at hand, the North Korean Regime decided to grab the reins and take control of the situation by re-enforcing the ideology of Juché (self-reliance) and enacting policies such as “let’s eat two meals a day” – which came to the forefront in the early 1990’s. These were fundamental changes in order to limit the consumption of food to strategically cut down need for imported aid. However, as time went on the struggle continued and North Korea was left with limited options. As pride and self-reliance is very much a part of the North Korean regime’s national ideology, this would be a difficult task to undertake. With the relationship between North Korea and the Soviet Union nearly dissolved, North Korea had to find and implement solutions that were viable economic solutions. This included the formal establishment of the Rason Special Economic Zone or Rajin Sonbong Economic Special Zone (라진선봉 경제특구) in 1992. This development allowed foreign investment and economic market trade with the ability to use foreign currency. This opened foreign investment between countries, and by the middle of the 1990s had garnered a hefty number of investors in the Rason region. Additionally, North Korea looked into locations on the bordering neighbor countries such as Sinuiji (신의주시) which shares a border with China and Kaesong which is near South Korea and the DMZ (De-Militarized Zone). This would ultimately promote trade between North Korea and its neighbors; however, it would provide very little sustenance in the trying times.

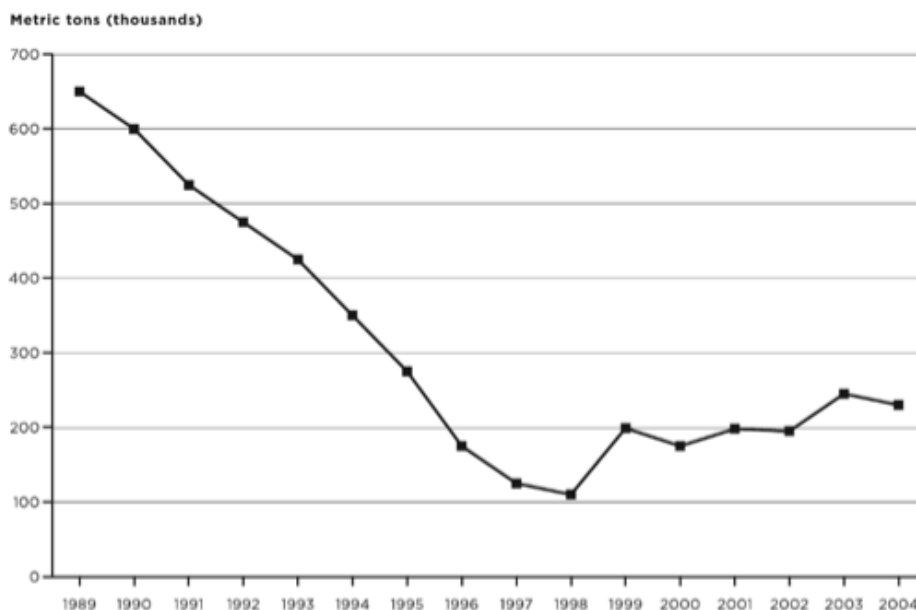
In terms of the Agriculture Sector, there was its fair share of mismanagement. Unfortunately, North Korea is not positioned in a region that can produce in abundance from its agriculture sector. Approximately only 19.52% of land is arable in North Korea.²⁰ This provides North Korea with not only limited agricultural arable land but the necessary resources to cultivate substantial crops. Consequently, “Continuous cropping led to soil depletion, and the overuse of chemical fertilizers contributed to acidification of the soil and eventually the reduction in yields.”²¹ This, along with the onset of droughts followed by extreme rainfall eventually lead to massive flooding thus further eroding the soil. In addition to overuse of chemical fertilizer, the government attempted to create more surrounding marginal land (land that has little or no agricultural potential) to develop new farmland. However, this would prove to be another agricultural mistake, as “these measures contributed to soil erosion and river silting and thus bear some responsibility for the catastrophic effects of the flooding that occurred in 1995.”²²

²⁰ “North Korea - Arable Land (% Of Land Area).” *North Korea - Arable Land (% Of Land Area) - 1961-2016 Data | 2020 Forecast*, Trading Economics, 2016, tradingeconomics.com/north-korea/arable-land-percent-of-land-area-wb-data.html.

²¹ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

²²Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

Figure 4. Fertilizer (NPK) Consumption, 1989-2004



Source: FAO/WFP 2004 (provided by Haggard and Nolan)

Upon analysis, this graph shows the continual decrease in fertilizer consumption in North Korea. Between 1990 and 1998, North Korea decreased its fertilizer consumption from 650 metric tons (thousands) to 110 metric tons (thousands) which is nearly 1/6th of its consumption in 1990. This is further evidence that chemical fertilizer was being overused and in order to restore the soils North Korea decreased consumption.

Mismanagement of the economic and agricultural sector contributed to the onset of famine in more ways than one. It depleted the DPRK of dependent imports and exports, eroded and destroyed croplands which further created cause for concern in regard to food security. However, there are many other factors that contributed to food insecurity. Next, we shall explore climate disturbance and government neglect to gain some insight

into what other contributing factors were involved in the North Korean famine.

4.3 Climate Disturbance

Climate disturbance play a pivotal role in food insecurity in North Korea. As mentioned before, overuse of chemical fertilizer eroded soils making it impossible to harvest sustainable crops and marginal lands contributed to that devastation as well. Within climate disturbance factors, there are two main components that caused food scarcity – droughts and floods. “The flooding contributed to the food crisis both directly through the loss of stocks and the removal of farmland from production and indirectly through its impact on infrastructure and particularly the energy sector (Williams, von Hippel, and Hayes 2000).”²³ Prior to floods, North Korea was experiencing a stint of droughts that had caused many harvesting complications. However, once the extreme rainfalls flooded the lands, it over saturated the soils and further eroded the soils. “The North’s food problems deepened in summer 1995, when heavy rains caused flooding and extensive crop damage, prompting Pyongyang to launch an international appeal for \$500m in food aid.”²⁴ With this information, we can conclusively

²³ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

²⁴ Reese, David. *The Prospects for North Korea's Survival*. Oxford University Press for the International Institute for Strategic Studies, 1998.

say that climate disturbance played a massive role in the escalation of food scarcity during the famine and prompted the search for viable outside sources including international food aid.

4.4 Government Negligence

Government Neglect is nothing new when discussing North Korean Society. In terms of famine, it was a distinct factor in the continual spread and severity of food insecurity. Within this section, it will explore two different types of government negligence that contributed to the widespread famine – Failure in Distribution and the Issues Regarding International Aid Relief. Additionally, “As military tensions deepened, an additional security motive may have played a role in the decision to conceal the extent of the food problem.”²⁵ Government Negligence is suspected to have played a significant role in the unprecedented death toll. However, that is not to say it is the primary contributor of food insecurity during this time period. It is to explain that the ramifications of government neglect were equivocally placed upon the citizens of North Korea.

4.4.1 Failure in Distribution

Since the early development years of the Democratic People’s Republic of Korea (DPRK), the citizens of North Korea have relied on the

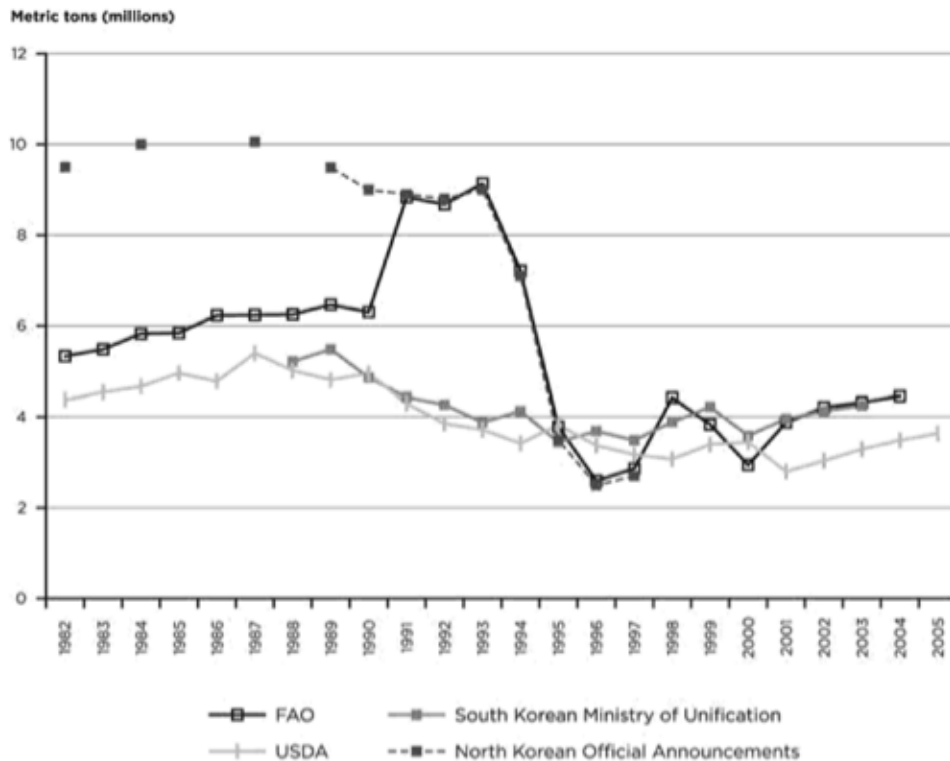
²⁵ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

Public Distribution System (PDS) to secure and distribute their food. “The PDS requires collective farmers in agricultural regions to donate a portion of their production to the government and then reallocates the surplus to urban regions, which cannot grow their own food.”²⁶ Approximately, $\frac{2}{3}$ of North Korean citizens receive their food rations through the Public Distribution System (PDS). More about this specific system will be further explained in Chapter 5. As production in agriculture began to decline rapidly, the government chose to further impose strict guidelines within not only the agriculture sector but specifically the Public Distribution System. “Famine refugees reported that the government decreased PDS rations to 150 grams in 1994 and to as low as 30 grams by 1997. It was further reported that the PDS failed to provide *any* food from April to August 1998 (the “lean” season) as well as from March to June 1999.”²⁷ This would provide trying times for the country as rations became smaller and smaller.

²⁶ Lee, Donna. “The North Korean Famine and Food Shortage: The Problem, the Politics, and the Policy.” *THE NORTH KOREAN FAMINE AND FOOD SHORTAGE*: 6 May 2006, dash.harvard.edu/bitstream/handle/1/8944674/LeeD06.html.

²⁷ Lee, Donna. “The North Korean Famine and Food Shortage: The Problem, the Politics, and the Policy.” *THE NORTH KOREAN FAMINE AND FOOD SHORTAGE*: 6 May 2006, dash.harvard.edu/bitstream/handle/1/8944674/LeeD06.html.

Figure 5. Estimates of North Korean Grain Production, 1982-2005



Source: FAOSTAT: USDAFAS; Korean Ministry of Unification: Woo 2004.

(Provided by Haggard and Nolan)

As evident in the figure above, North Korea experienced rapid shifts in grain production since the beginning of the 1990s. Within the graph, there are four different estimates in grain production for North Korea; FAO, USDA, South Korea Ministry of Unification and North Korean official announcements. The most intriguing of the data is the sharp decrease in grain production recorded by FAO which occurred around 1996. This would provide as additional data to further explain that floods had cause agricultural damage making soils eroded and thus making crops near

impossible to yield. However, with the drastic shifts in government policies and neglect regarding the issue – everything came to a standstill in 1998 when the PDS system completely halted distribution. “As the failure of its public distribution system became more difficult to conceal, North Korea appealed for international relief, consistently invoking the floods as the reason for its need of assistance.”²⁸ Among research, scholars have speculated that distribution lasted as long as it did due to that fact that distribution had stopped in the rural and mountainous regions of North Korea. These areas were the most dependent on the Public Distribution System due to the fact that many citizens did not live on arable land.

While examining the failure in distribution, it cannot be ignored that a series of government negligence was involved in food scarcity during this time. Unfortunately, this would continue on as the government sought out international aid relief which would as well, become a contributing factor.

4.4.2 Issues Regarding International Aid Relief

“In 1995, aid mattered. North Korea quietly negotiated some bilateral aid from South Korea and Japan in early 1995 that assisted the country in the spring of 1996 (see chapter 6). But it was not until the floods of July and August 1995 that the government made an unprecedented appeal

²⁸ Lee, Donna. “The North Korean Famine and Food Shortage: The Problem, the Politics, and the Policy.” *THE NORTH KOREAN FAMINE AND FOOD SHORTAGE*: 6 May 2006, dash.harvard.edu/bitstream/handle/1/8944674/LeeD06.html.

for wider multilateral assistance.”²⁹ Two of the main issues regarding international aid relief lie within the reality that North Korea remains a very secretive and decisive country. One major issue with humanitarian aid relief was the concept of being closely monitored (by international organizations) in terms of examining the need for aid and seeing it through distribution. The second is simply accepting less authority and complying with the international aid organizations. These two issues would ultimately hinder the arrival of international aid from various organizations.

One of the main challenges was North Korea’s inability to open up publicly about the issue. North Korea was adamant on placing the blame outside the government – blaming soil erosion due to ecological issues that had damaged the agricultural sector. In the aid process, North Korea was very insistent on only showing the outside world a fraction of the very dire situation. This in result, put the donors in a very difficult situation in terms of determining the amount of aid that was necessary over prolonged periods of time. Additionally, North Korea did not want to show or explain how and where they would distribute the aid relief. Furthermore, this led officials to wonder whether the aid was truly being used to relieve the citizens of North Korea or was it being stored for other purposes. International Aid Organizations have struggled trying to find a common ground in order to work efficiently to no avail. “For example, Doctors Without Borders

²⁹ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

(Medecins Sans Frontieres) gave up their efforts when they realized that the government was blatantly engineering situations to their own benefit. Healthy-looking children suddenly appeared when the organization raised concerns about whether food was being properly allocated; then sickly-looking children appeared when the North Korean government demanded a need for more food.”³⁰

When reflecting on the circumstantial evidence – it doesn’t seem far-fetched to assume that the government in North Korea should be held accountable for some negligence when considering the widespread famine that killed hundreds of thousands of people. However, we cannot place the entirety of blame on the government as many other things contributed to the devastation, things such as; economic and agricultural mismanagement, environmental degradation and government negligence. All-in-all these contributing factors are responsible for the Famine that destroyed the livelihoods and well-being of countless people and their families.

³⁰ Lee, Donna. “The North Korean Famine and Food Shortage: The Problem, the Politics, and the Policy.” *THE NORTH KOREAN FAMINE AND FOOD SHORTAGE*: 6 May 2006, dash.harvard.edu/bitstream/handle/1/8944674/LeeD06.html.

Chapter 5

Food Security in North Korea

One of the goals of this thesis is to explore the ways in which North Korea, under the guidance of Kim Jong Un, are expanding their food security and agricultural development through new agricultural reform policies. Ultimately the mission is to provide proof that food security maintains an importance to the Supreme Leader Kim Jong Un and that he is working to provide more sustainable means of agricultural development as well as provide the necessary tools to avoid food insecurity. In this section, it will detail how food is secured in North Korea through PDS, International Aid, and Black Markets. Additionally, it will discuss how North Korean ideology and enacted policies have been a major source of food security for the reclusive nation. In order to understand and evaluate the present, you must examine the past. Therefore, we will include food security policies and North Korean ideology that played prominent roles during the North Korean Famine. Food Security remains a serious issue in the North and further analysis in this thesis should result in evidence of shift in prioritization for the North Korean Regime.

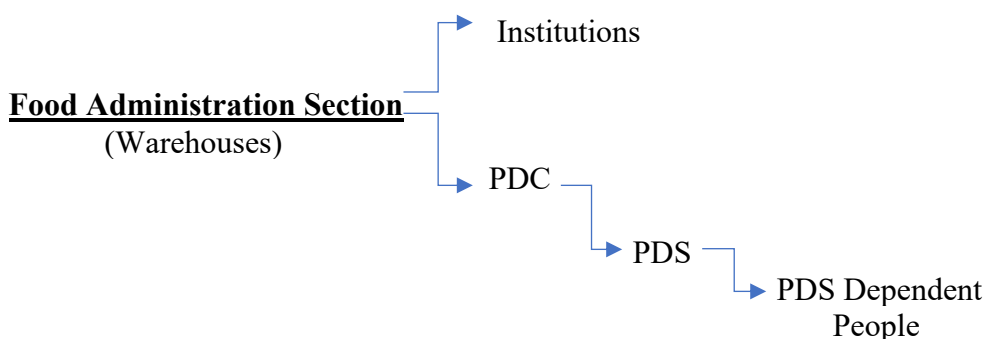
5.1. Public Distribution System (PDS)

One of the most important aspects regarding food security is the use of the Public Distribution System (PDS). “This system was the core of the socialist system of entitlements for food and constituted a powerful tool of social control, particularly of urban populations that were completely dependent on it”³¹ For many years, the PDS was the primary food source for nearly $\frac{2}{3}$ of the population. However, as food scarcity became more prevalent in North Korea – the rations began to diminish leaving many to search for sources outside of the PDS. “Each county has a Food Administration Section and a warehouse that supplies a few institutions directly but otherwise distributes food to local Public Distribution Centers. Each PDC serves 1,500-3,000 families.”³² Therefore, the common route of food requires a systematic socialist structure. The PDS is a strategic system that allows complete control over food distribution and those who are dependent on it as a food source. As a result, this system is one of the core contributors to food security in North Korea. In the figure below, you can see the pathway of food distribution as explained above.

³¹ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

³² Sorenson, Clark. 2nd and 7th Feb. 2017. “The North Korean Famine” North Korean Society Lecture. University of Washington in Seattle, USA.

Figure 6. Public Distribution of Food



Source: Cheever (2020)

As food scarcity became more widespread, shipments became less frequent and eventually came to a complete standstill especially in the Northern mountainous regions. “The system of food distribution in North Korea was an inbuilt system of social and political control that allotted food according to the factors such as gender and age but also according to perceived political loyalty and occupation.”³³ This is circumstantial evidence that the government was more concerned with the livelihood of the government officials and the military versus the lives of those in rural and mountainous regions who did not meet their societal standards. The nations priority led with “Military, secret police, high ranking bureaucrats, and

³³ Fahy, Sandra. *Marching Through Suffering*. New York: Columbia University Press, 2015.

those engaged in heavy labor had higher rations.”³⁴ The system is quite unique and favors those of more prominent social standing. In the table below, it displays the rations distributed to people in accordance to their job and region. This table provide further understanding towards not only the number of rations distributed through the PDS system but taking things such as; occupation, age and region into consideration.

Table 4. PDS Allocations and Population Estimates by Occupation

| <i>Occupation and Age Group</i> | <i>Per Capita</i> | | <i>Ratio of Rice to Corn</i> | | |
|-----------------------------------|-----------------------------|--|------------------------------|-----------------------|--------------------|
| | <i>Daily Ration (grams)</i> | <i>Population distribution (thousands) (%)</i> | | <i>Pyongyang Area</i> | <i>Other Areas</i> |
| High-ranking government officials | 700 | 4.8 | 0.02 | 10:0 | 10:0 |
| Regular laborers | 600 | [4905.4] | 37.14 | 6:4 | 3:7 |
| Heavy-labor workers | 800 | [4905.4] | 18.95 | 6:4 | 3:7 |
| Office workers | 600 | 1976.3 | 7.48 | 6:4 | 3:7 |
| Special security | 800 | [603.3] | 2.28 | 7:3 | 7:3 |
| Military | 700 | [603.3] | 2.28 | 6:4 | 3:7 |
| College students | 600 | 591.7 | 2.24 | 6:4 | 3:7 |
| Secondary school students | 500 | 2182.5 | 8.26 | 6:4 | 3:7 |
| Primary school students | 400 | 2397.5 | 9.08 | 6:4 | 3:7 |
| Preschool students | 300 | 1270.6 | 4.81 | 6:4 | 3:7 |
| Children under 3 years | 100–200 | 1866 | 7.06 | 6:4 | 3:7 |
| Aged and disabled | 300 | 104.9 | 0.40 | 6:4 | 3:7 |

Source: Haggard and Nolan. Adapted from Kim, Lee and Sumner 1998.

³⁴ Sorenson, Clark. 2nd and 7th Feb. 2017. “The North Korean Famine” North Korean Society Lecture. University of Washington in Seattle, USA.

As you can see from above, special privileges are taken into account regarding daily ration in terms of occupation, age and region. Those with significant higher occupational ranking such as high-ranking government officials were given high daily rations and primarily consist of rice. Additionally, there is evidence to suggest that less high-ranking positions outside of Pyongyang have varied rations which consist primarily of course versus rice. Therefore, we understand that food is considered more of a priority towards the officials, security and military – the people who defend and create policies to protect the regime. From this information, it can be further understood exactly how food is secured and distributed through the Public Distribution System in North Korea.

5.2. International Aid

International Aid is another powerful source of food security for North Korea, but it also come with its fair share of complications. Prior to the collapse of the Soviet Union, North Korea had become dependent on the USSR for several resources including food. After the collapse, North Korea was left to its own devices figuring how to resourcefully maintain its food security. When the famine broke out in the 1990s, they resisted the urge to seek outside international humanitarian relief. Thus, putting policies in place to secure rations for its most essential citizens; high-ranking officials, security and military. In the mid 1990's, droughts and torrential flooding had caused such severe damage to the agriculture sector that outside

assistance was considered urgent. The primary issue with international aid for North Korea was the constant monitoring from outside sources. “In particular, North Korea’s government allows limited access to those areas where the scale of humanitarian crises is most severe—i.e., the northeastern provinces and Jagang province, with no access allowed to the latter.”³⁵ This ultimately resulted in many difficulties for international aid relief organizations leaving them without the information they need in order to provide the necessary resources to North Korea. However, humanitarian relief is still distributed to North Korea through various processes. Since the request of international relief assistance in the 1990s, North Korea has been a continuous aid recipient from various organizations and even, from countries directly. However, relations between countries have caused significant variances in terms of amount of aid distributed. Despite this, North Korea has received several large transfixed amounts of aid from nearby bordering countries like China and South Korea. “The two largest bilateral donors, that is, those donors that do not channel food through the WFP, are China and South Korea. Both governments provide concessional sales or grants of food without conditioning relief on any grounds. South Korea, for example, continues to commit a tremendous quantity of food (about 90% of total WFP appeals) without requiring food relief to go to the

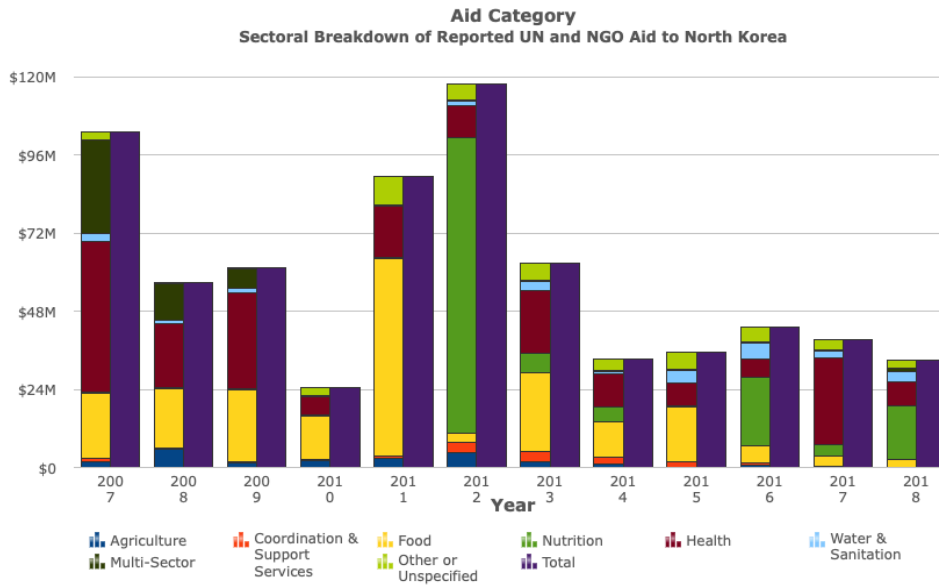
³⁵ Kim, Jiyoung. "The Politics of Foreign Aid in North Korea." *The Korean Journal of International Studies* 12.2 (2014): 425-50.

most vulnerable populations.”³⁶ From this information, it is evident that North Korea has developed multiple resources in order to conceal and hide its ever-so secretive landscape and the lack of human-rights towards its citizens. “Throughout the period between 1996 and 2001 (when the food crisis was most acute), North Korea received a total of 5.94 million metric tons of food aid.”³⁷ Since the 1990s, North Korea has received aid from several foreign organizations and countries. In some cases, the DPRK has even threatened to reactive it’s nuclear power plants in manipulation to receive various types of aid. Recently, aid has been continually decreasing as sanctions have been placed upon foreign organizations who are notorious for sending foreign aid. In most recent years, North Korea has received aid for a variety of sectors including food and nutrition. In the graph below, you will find recent data that depicts these findings for the years 2007-2018.

³⁶ Jiyoung Kim. "The Politics of Foreign Aid in North Korea." *The Korean Journal of International Studies* 12.2 (2014): 425-50.

³⁷ Lankov, Andrei. *The Real North Korea: Life and Politics in the Failed Stalinist Utopia*. Oxford University Press, 2015.

Figure 7. Sectoral Breakdown of Reported UN and NGO Aid to North Korea



Source: UN Office for the Coordination of Humanitarian Affairs (UNOCHA)

Within the figure, there is a fair amount of reliable data that UNOCHA has provided to show the breakdown of foreign aid to North Korea. Some interesting factors in the data include the drastic shift in food and other or unspecified aid for years 2011 and 2012. This indicates possible fluctuations due to Kim Jong Il’s death and Kim Jong Un’s rise as the Supreme Leader of North Korea. Additionally noted, the amount of aid has continually decreased, and one possible explanation is that the increase and development of North Korea’s Nuclear Program which could explain the drastic decrease in foreign aid. These developments caused many strained relationships between not only the ROK and DPRK but China and US as well. As stated before, sanctions have been placed upon foreign aid

and foreign aid organizations which could further explain the drastic decrease in foreign aid. A variety of factors have the potential to explain the decrease in aid – with that being said – these factors are the most likely to have caused massive shifts in international aid to north Korea.

International Aid has played a pivotal role in maintaining food security in North Korea. Without foreign aid, North Korea could have faced an internal shock and collapsed due to the economic and agricultural mismanagement by the North Korean regime. However, it is near impossible to know the reality of the situation as aid has become a fixed reality for the DPRK and will continue for many years to come.

5.3 Black Markets (장마당)

Black Markets have played a prominent role in food security in North Korea. Black Markets (known as 장마당 in Korean) are illegal markets that sell a variety of goods including; clothing, electronics, and food amongst many other consumer goods. The establishment of these markets became well known during the Arduous March – popping up left and right and even overnight. “With the state no longer able to feed its people, a new system stepped in to take over. Black Markets began to appear all over the country, where the distribution system’s failure hit

especially hard, and effectively fed thousands of North Koreans.”³⁸ The markets played an essential role in feeding countless families during the famine. Over the years the government has really shifted in its view of black markets. “During the later years of Kim Jong-il’s reign, the government began to grudgingly accept their existence and took steps toward regulating them: charging rent for stalls, controlling prices and monitoring what goods were for sale.”³⁹ This has continued on into Kim Jong Un’s reign and has provided some economic growth in North Korea in recent years. Black Markets developed in the darkest times to provide food security for those who were PDS dependent and continue to provide a safety net for those in need. Furthermore, this is providing North Koreans with access to the outside world which allows them to get a glimpse into life outside the Kim regime.

5.4 Ideology and Enacted Policies

Since the establishment of the DPRK, the North Korean people have proven their resilience and dedication to the Kim regime. However, not all citizens of North Korea believe and abide by the Kim Regime Ideology. In

³⁸ Mason, Richard. “In North Korea, Black Markets Are Saving Lives: Richard Mason.” *FEE Freeman Article*, Foundation for Economic Education, 15 Nov. 2017, fee.org/articles/in-north-korea-black-markets-are-saving-lives/.

³⁹ Jeppesen, Travis. “Shopping in Pyongyang, and Other Adventures in North Korean Capitalism.” *The New York Times*, The New York Times, 14 Feb. 2019, www.nytimes.com/2019/02/14/magazine/north-korea-black-market-economy.html.

this section, it will explore the different North Korean ideology and policies that the government enacted in order to secure food to ensure the overall survival of the North Korean regime.

5.4.1 Juché Ideology (주체사상)

“Juche” (주체사상 in Korean meaning “Self-Reliance”) was formally introduced during a speech by Kim Il Sung in 1955. This ideology is primarily based on the belief that one should be self-reliant and take matters into their own hands in terms of survival. Armstrong states, “[...] North Korea’s slide into economic disaster is due to the insistence of the DPRK government on “self-reliance”, or Juche, which was first articulated in the mid-1950’s and became official policy in the mid-1960’s.”⁴⁰ While the overall definition of Juche symbolically poses a strong ideology for the North Korean people – it has caused many hardships for the North Korean people as well. As soon as food became scarce, the North Korean government left it up to the citizens to provide for themselves. This led many people to use other food security sources, things such as; black markets, trading, smuggling, stealing and even picking weeds in the mountains to feed their children. The North Korean people were aware the government would not provide for them. With that in mind, they became

1. ⁴⁰ Armstrong, Charles K. *Tyranny of The Weak*. Cornell University Press, 2013.

self-reliant to assure their survival. When examining the North Korea
Famine, it can be said this would be the catalyst that truly opened up
citizens eyes to understand where the regimes priority lies.

5.4.2 Military First (선군)

The Military First was officially introduced as a policy subsequently following the death of leader Kim Il-Sung in 1994. During this time, famine had already become a dire issue that was plaguing various regions across the nation. “North Korea’s “military-first” policy operates under the principle of expanding the military’s role and privilege and enforcing the military state’s policy rule.”⁴¹ This policy has served in advancing the country’s military forces but at the same time has generated numerous controversial opinions as well. In terms of food security, North Korea was accepting aid from international organizations and several countries. As always, North Korea had conditions and was adamant in seeing them through. These assertive conditions were that the aid be shipped in unmarked bags. This would allow the regime to conceal the “*reliance*” the regime had on outside sources. Initially, the international organizations had suspicion that the aid was not being properly distributed to those in dire need. It was uncovered that North Korea had been distributing much of the aid to the Military – essentially putting “Military First”. The military has proven to be the primary resource

⁴¹ Suh, Choo-Suk. “North Korea's ‘Military-First’ Policy and Inter-Korean Relations.” *Korean Journal of Defense Analysis*, vol. 14, no. 2, 2002, pp. 167–185.

of survival for the regime. Therefore, it is only natural in the eyes of high-ranking government officials and the military to put primary focus on the key to survival. Overall, this is a compelling case of food security and of North Korea's determination to keep the regime stable and secure.

5.4.3 Two Meals A Day

Two Meals A Day was a policy introduced by Kim Il-Sung in 1991. This policy was introduced in the effort to cut down food consumption and delay the spread of famine across North Korea. As the country's agricultural sector was plummeting, ecological devastation and the overuse of chemical fertilizer had nearly created unsalvageable arable land. Taking this into consideration and the importance of feeding the elite - the country was encouraged to cut down on consumption. However, the citizens didn't second guess that this was a decisive measure in order to secure food for high-ranking officials, security and the military. This policy didn't last long as food scarcity was dwindling down to nothing. If anything, it was an indicator of the starvation and difficulties many would face soon enough.

Food security in North Korea has many dimensions and purposes to the regime. A significant emphasis is placed on the military in order to ensure the regime's survival. If anything, the insight into food security should provide an understanding of how far the North Korean government is willing to go in order to protect and isolate their country from the outside world. As you can see, there are many ways in which food is secured in

North Korea, but the question remains – what new developments are being made in order to secure food in North Korea under the Kim Jong Un regime?

Chapter 6

Consequences Towards Constituents

This chapter will take a closer look into the consequences towards constituents in North Korea after the North Korean Famine. Unfortunately, the famine impacted various aspects of everyone's lives and had left them in dire circumstances. This section will discuss the death toll, malnutrition of children, the impact on agriculture, demographic shifts, and the rise in Kotjebe (꽃제비). These are essential in the study of famine and food security as they are the direct results of a series of mismanagement and neglect by the North Korean government. Furthermore, they provide the foundation for the development of new and sustainable food security policies under Kim Jong Un. In order to develop sustainable and beneficial policies – you need to evaluate and learn from the past.

6.1 Death Toll and Malnutrition

The devastation had resulted in countless deaths throughout the country. “Nonetheless, in our view the most sophisticated attempts to measure excess deaths put them in the range of roughly 600,000 to 1 million, or approximately 3 to 5 percent of the precrisis population”⁴² Many

⁴² Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

other scholars have estimates that range from 250,000 to nearly 2.5 million deaths. Some of these scholars take the worse accounts into consideration. Therefore, estimating higher death tolls than others. However,” The most reliable figures are those of Haggard and Noland, Goodkind and West, and K. S. Park. All of these agree that the number of deaths was between 600,000 and 880,000.”⁴³ The death toll left an overwhelming reminder for many families as many families were expected to self-reliant and provide for themselves during this time. The conditions were very poor and left many to develop survival skills. “They picked kernels of undigested corn out of the excrement of farm animals. Shipyard workers developed a technique by which they scraped the bottoms of the cargo holds where food had been stored, then spread the foul smelling gunk on the pavement to dry so that they could collect from its tiny grains of uncooked rice and other edibles”⁴⁴ In addition to this, many people in the mountainous regions of North Korea (where the famine was most severe) collected weeds and grasses to replace vegetables in soups and stews. Unfortunately, the death toll was a permanent reminder of the adversity they had endured for nearly a decade’s time and would be a lesson to all regarding the reality of life under a socialist regime.

⁴³ Sorenson, Clark. 28 April 2020. Interview. (see Appendix)

⁴⁴ Demick, Barbara. *Nothing to Envy – Ordinary Lives in North Korea*. Spiegel & Grau, 2015.

Malnutrition was substantially affected in the aftermath of the North Korean Famine. “Ten years after the famine, we still find classic signs of chronic malnutrition, with all the long-range developmental implications they carry.”⁴⁵ In a study conducted by Schwekendiek and Pak, the researchers compared various aspects of malnutrition in order to gain some insight into the malnutrition severity post-famine by comparing North and South Korean childrens height, weight and BMI. In their findings they state that, “[...]because stunting and underweight increased with age during the food crisis of the 1990s, 7-year-old North Korean children (compared to South Koreans) became shorter and lighter than 1-to-5-old North Korean children (compared to South Koreans).”⁴⁶ By measuring the indicators of malnutrition Schwekdeniek and Pak were able to visually and scientifically confirm that there was circumstantial evidence that malnutrition had effected childrens heigh, weight and BMI from the Famine. In their evidence, they found that children in North Korea were significantly shorter (approximately 6-7cm in height) and that their weight was significantly under South Koreans at approximately 3kg when compared to the South Korean Children. Unfortunately when they remeasured children in 2002, the study showed that the height difference between North Korean’s had widened to nearly 8cm with a similar weight difference as conducted in

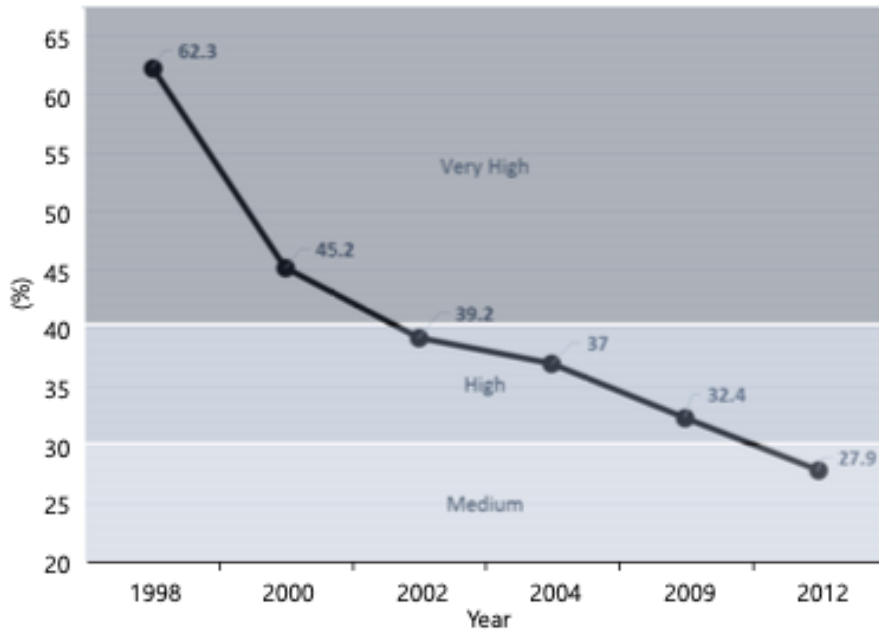
⁴⁵ Haggard, Stephan, and Marcus Noland. *Famine in North Korea: Markets, Aid, and Reform*. Columbia University Press, 2009.

⁴⁶ Schwekendiek, Daniel. *A Socioeconomic History of North Korea*. McFarland, 2011.

1998. “Throughout the age categories, the prevalence of stunting was higher among North Korean children; it was found in approximately 20% of children under the age of 12 months with the highest prevalence exceeding 50% in children in the older age categories between 12 and 71 months. South Korean data showed the prevalence of stunting at the level of 3%–10% for all age categories.”⁴⁷ In the graph below (provided by Lee), we can see that from 1998 the trend in chronic malnutrition has decreased substantially over a 14 year period. However, the numbers are still well above global averages proving food security does place an intricate part in malnutrition.

⁴⁷ Lee, Soo-Kyung. “North Korean Children: Nutrition and Growth.” *Annals of Pediatric Endocrinology & Metabolism*, vol. 22, no. 4, 2017, pp. 231–239.

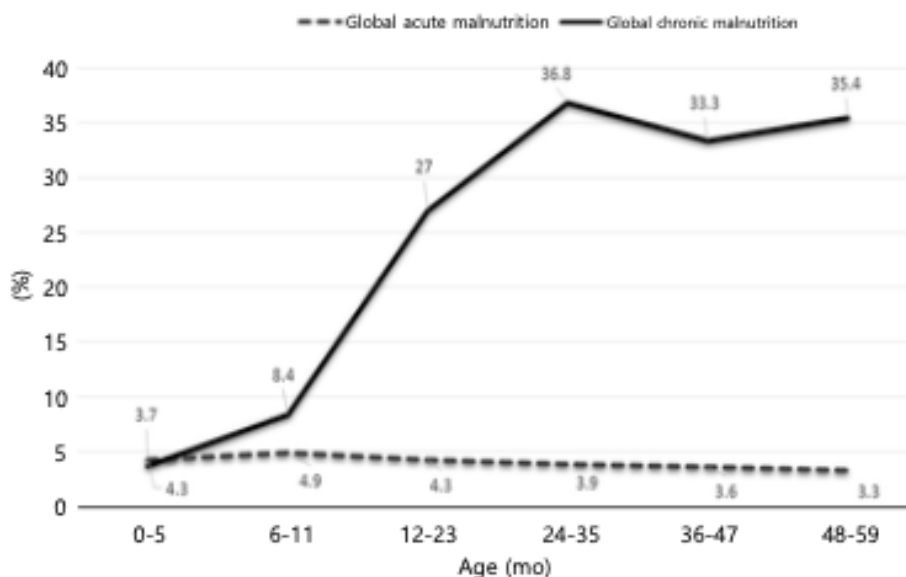
Figure 8. Trends of Chronic Malnutrition among North Korean children per year.



Source: Soo-Kyung Lee, PhD, RD from the Department of Food and Nutrition at Inha University in Incheon, South Korea.

In the next figure (provided by Lee), you can see the cross comparison of the percentage of acute and chronic malnutrition among North Korean children by age in 2012. This is newer data that was collected and shows that malnutrition continues to affect children despite the increase in foreign aid. Therefore, other factors must be involved in the high percentage of children categorized as acute or chronic malnourished.

Figure 9. Percentage of acute and chronic malnutrition among North Korea children by age in 2012.



Source: Soo-Kyung Lee, PhD, RD from the Department of Food and Nutrition at Inha University in Incheon, South Korea.

Children were not the only ones affected by malnutrition. It is evident that malnutrition effected many adults and elderly in North Korea during this time – especially those in rural and mountainous regions. The severity of wasting was one of the visual signs of malnutrition amongst adults in North Korea. However, specific emphasis is placed on the malnutrition of children because it allows for more complex analysis. Through this we can see the change in indicators (age, height, weight, etc.) over specific periods of time.

6.2 Impact on Agriculture

The impact on agriculture was one of the biggest changes in terms of food security for North Korea. The overuse of chemical fertilizer and the ecological destruction were critical factors in the downfall of crop yielding thus leading to the severe famine conditions. However, there are many other factors that led to the widescale food scarcity in North Korea.

Since the famine, North Korea's agricultural sector has never truly been the same and if anything, remains stagnant. With limited arable land to begin with, North Korea sought to improve their industrial economy in the hopes of reviving their agricultural sector too little to no avail. Additionally, North Korea has tried to restore the fields to former glory but unfortunately with lack of technology and resources it has proven a difficult task. "Despite greater-than-average rice and maize seed quality, production remains low."⁴⁸ Despite the low numbers, in the early 2000's North Korea's agricultural sector produced higher than average numbers of crop yield. This is due to a combination of "[...]to favorable weather, a relatively low incidence of crop pests and diseases, increased application of fertilizer donated by South Korea, and better irrigation."⁴⁹ Despite this development, the agricultural sector has fluctuated tremendously in terms of crop yield.

⁴⁸ Nam, Sung-Wook. "Chronic Food Shortages and the Collective Farm System in North Korea." *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

⁴⁹ Nam, Sung-Wook. "Chronic Food Shortages and the Collective Farm System in North Korea." *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

Ecological, technology and lack of resource factors have continued to play critical roles in advancing North Korea's agricultural sector. Overall, this poses serious issues for the future of agriculture in North Korea. In the next section, it will examine the agriculture sector including agricultural reform policies that have been implemented over the years pre and post famine.

6.3 Rise of Kotjebe (꽃제비)

Kotjebe (꽃제비 in Korean meaning 'Flowering Swallow') is a term used to identify North Korea's population of homeless children. These children lack any basic identification, and many were abandoned by the families. They became more prominent in North Korean society in the wake of the Arduous March. Due to many family's inability to feed their children there was a spike in increase of Kotejebe children across the country. These children typically live in groups with other homeless children and beg on street corners or steal from markets to survive.

The rise in Kotjebe in North Korea is an unfortunate consequence of the mismanagement of the economic and agricultural sector. Due to this, many children are left alone on the streets to fend for themselves. Unfortunately, many of these children die of starvation or disease while others attempt to flee through China at the hopes of a new life.

6.4 Continuous Struggle with Famine

As you can see, the famine left many of citizens of North Korea in arduous and adverse circumstances. Between death, malnutrition, a fluctuating agricultural sector and the rise of homeless children – it can be said that the famine left an imprint that couldn't be erased. While examining these consequences towards constituents, it is important to bring forward the most critical consequence North Korean society faces. Famine continues to be a continuous struggle for the North Korean people. In recent years, we have seen many reports that North Korea is indeed on the brink of another famine. Now, food scarcity has always been an issue in North Korea but the idea of a full-fledged famine (similar to the 1990s) occurring yet again in North Korea is horrendous.

In Spring 2019, the UN FAO and WFP have assessed and reported on the arable land and crop yield in North Korea. “More than 10 million North Koreans are suffering ‘severe food shortages’ after the worst harvest in a decade, according to a United Nations food security assessment released on Friday.”⁵⁰ To put this into perspective, there are only 25 million North Koreans living in North Korea. That would mean an astonishing forty percent of North Korean citizens are facing severe food shortages. Floods and droughts have proven to be environmental issues that plague the

⁵⁰ “North Korean Families Facing Deep 'Hunger Crisis' after Worst Harvest in 10 Years, UN Food Assessment Shows || UN News.” *United Nations*, United Nations, 3 May 2019, news.un.org/en/story/2019/05/1037831.

agricultural sector. “In addition to unfavourable climatic conditions, limited supplies of agricultural inputs, such as fuel, fertilizer and spare parts have had ‘significant adverse impact’ the agencies report.”⁵¹

As you can see, North Korea has continued to face adversity and food security issues publicly for the last several decades. However, with Kim Jong Un and new agricultural reform policies – leading many to wonder are measures being taken by the Supreme Leader to maintain Food Security in North Korea. In the next section, it will explore the history of agriculture reform policies in North Korea at an attempt to understand the changes that the young leader is trying to make in order to improve the agriculture sector and possibly the livelihood of the North Korean people.

⁵¹ “North Korean Families Facing Deep 'Hunger Crisis' after Worst Harvest in 10 Years, UN Food Assessment Shows | | UN News.” *United Nations*, United Nations, 3 May 2019, news.un.org/en/story/2019/05/1037831.

Chapter 7

The Dawn of a New Era

After the death of former North Korean leader Kim Jong Il, Kim Jong Un (the youngest son of Kim Jong-il and Ko Young-hee) stepped in as the new Supreme Leader of North Korea. This proved to be a turning point for the North Korean regime as the new young leader began to embark on a mission to revitalize North Korea through a variety of methods; purging, economic reform, agricultural reform, nuclear buildup, and even international political engagement. This has proved to be a difficult task for the young leader. However, Kim Jong Un is determined to change the dated ways in which the North Korean regime is operating and protect the regime at any cost. It is imperative to include this information to show the ways in which the young leader is not only changing the agriculture sector in North Korea but re-developing the country in whole. Only then we can see the true effects his involvement has been on furthering the development of the DPRK.

7.1 The Rise of Kim Jong Un

From a young age, Kim Jong Un was sheltered from society – attending boarding school in Switzerland and generally keeping under the radar - even into his adulthood. Upon his return to North Korea, he attended Kim Il-Sung Military University which would undoubtedly prepare him to

obtain succession of the North Korean regime. As his father's health deteriorated rapidly, the future young leader began to be groomed to take his place as the future leader of North Korea.

In December 2011, Kim Jong Un's father (Kim Jong-il) died and the young heir assumed official control over the North Korean regime. With this power – came great change. A series of events would follow this announcement including an insurgence of purges amongst officials who had gained prominence as senior officials of the late Kim Jong-il. During this time period – Kim Jong Un captured and executed a number of high-ranking officials – including his uncle Jang Song-thaek. His uncle had been considered to be conspiring to overthrow the government to which was seen as the ultimate betrayal to the North Korean regime. The young leader is even suspected of conspiring and organizing the brutal killing of his half-brother Kim Jong-nam at an airport in Malaysia. Ruthless some call it - but to North Korean citizens it is the face of reality and a reminder to know your place as a “product” of North Korea.

Kim Jong Un was looking to make an imprint on the country that his grandfather founded and within a matter of time – he surely would leave his mark. Over the course of his leadership thus far, he has shown many different sides of himself to not only the public domestically but Internationally as well. Kim Jong Un has worked toward re-inventing a more efficient and productive North Korea – taking into account the structural issues that needed to be re-balanced in order for North Korea to

grow and learn to thrive. With that being said, we will take a closer look into the leadership traits that the young leader possesses that make him a force to be reckoned with and one of the world's most notoriously unpredictable leaders the world has ever seen.

7.1.1 Leadership and Personality Traits

In terms of leadership and personality traits, the Supreme Leader exhibits a number of qualities that would deem him a successful leader. First and foremost, he exhibits a cheerful, charming and social demeanor – casually smiling and socializing with a variety of people. This brings a favorable admiration towards the leader making his influence much more respected in terms of leadership capabilities.

Additionally, the young leader exhibits a dominating yet aggressive demeanor towards not only North Korean citizens but towards foreign enemies as well. Ultimately, this presents himself as a force to be reckoned with and that he is not someone not to be taken lightly. Additionally, it shows his determination and his patriotism towards his country and the protection of the regime. This can show a sense of distrust towards outside forces and a sense of skepticism that can be unrelenting.

Furthermore, he exhibits himself as being ambitious. He sets plans to see them through – which has proven on many occasions without hesitation. He is a calculative man which can lead to impulsive decision making – which we have seen time after time with cooperative efforts

involving re-unification and nuclear build-up. However, we do see that he shows patterns of cooperative effort and engagement within and outside of the North Korean regime. This shows his willingness to move forward and to break new ground.

Overall, we can see the Supreme Leader exhibits a number of qualities that are favorable in terms of a successful leader. He displays a number of essential social skills that are associated with great leadership including cheerful, friendly personality with the ability to be decisive, ambitious and dominant. With that being said, he has been groomed to take on complicated tasks that involve controlling and protecting the North Korea regime.

7.2 Vision Changes North Korea

From the early days, Kim Jong Un and North Korean officials set out to create a new directional vision for the future of North Korea. These plans including things such as; re-forming the economy, nuclear development and even engaging in international political engagement – even between the North and South on war torn soil which had never been seen before. The young leader took a swift turn of direction from the patterns of his father and grandfather and looked towards fostering relationships rather than writing them off. While this thesis is primarily concentrated on the famine, agriculture and food security in North Korea – it is essential to discuss what the Supreme Leader has taken on thus far in

terms of creating a new vision for his country. Therefore, the next sections will discuss the most prominent implementations he has set forth in his short time period as Supreme Leader of North Korea.

7.2.1 North Korean Economy

It comes as no surprise that Kim Jong Un admires many aspects of his grandfather and the former policies he implemented. In 2013, this became more evident as Kim Jong Un set forth to revert back to former economic policies that originated under the former leader Kim Il-Sung. This policy, deemed the “Byungjin Policy” (병진) is an economic and defense policy that strongly encourages parallel economic and military development in North Korea. In April 2018, Kim Jong Un pushed full steam ahead towards working to improve the North Korean economy. By doing so, he marked it as his number one priority in terms of further developing North Korea. However, the nuclear developments persisted, and North Korea was hopeful that the parallel guidelines would prompt the United States of America to reduce or lift all economic sanctions they had placed on North Korea due to Missile testing which amplified in 2016.

It has become evident that the economic reforms are not yielding the types of results that North Korea would like to set forth. However, it does not mean the North Korean Economy is systematically failing but the likelihood of it succeeding relies a lot in not only its relationship with other nations but its willingness to take the necessary steps towards a true and

logical reform. Kim Jong un will have to take the necessary steps towards creating new and sustainable policies that fit North Korea's needs in these modern and constantly evolving times. Without those, the economy will persist in developing but at limited rates. The young leader is taking measures to ensure growth of the economy; however, he is failing by reverting to old policies that are no longer sustainable. Since this time, it seems that Kim Jong Un has placed more emphasis on Nuclear Development as relations with the United States and the Republic of Korea have become stagnant. Only the future knows what's in store for the North Korean economy. There has to a combination of priority and strategic efforts to see North Korea become an economically developed, sustainable, and independent nation.

7.2.2 Nuclear Development

Under the Kim Jong Un Regime, we have seen amplified activity in terms of Nuclear Development in North Korea. Beginning in 2014, there was a rise in tension as China had addressed nuclear development on the Korean peninsula. China stated that they would not stand for tension or war and that North Korea's cooperation in terms of denuclearization would be only way to maintain peace in East Asia. However, North Korea persisted by launching multiple rounds of missile testing which inherently violated a number of agreements internationally. Within a matter of months, it would be confirmed that North Korea had been developing and expanding its

nuclear testing sites. This alarmed the world as many watched in fear that North Korea could directly be an international threat towards world security.

Over the next few years, North Korea persisted with its threats of nuclear action after sanctions began to be placed upon North Korea. In January 2015, North Korea tried the bargain with the United States. North Korea stated it would halt nuclear development and testing if the US-ROK joint military training would be cancelled. However, unfortunately for North Korea both sides (US and ROK) rejected the offer to halt training. From this point, the tensions began to rise and in January of the next year North Korea would confirm the first successful testing of a hydrogen bomb. Going forward, the United States, China and South Korea kept their eyes wide open to monitor the ongoing activities within North Korea. Beginning in 2017, North Korea began to rapidly increase their development and in the summer conducts multiple nuclear tests. Due to this increased activity, the United States President Donald Trump issued a statement to the South Korean National Assembly. He advised North Korea that they would have to actively work towards shutting down their nuclear operations in order to begin negotiations and that North Korea shouldn't laugh in the face of the United States. From this point forward, The US actively begins working alongside South Korea President Moon Jae In and Chinese President Xi Jin Ping in order to combat the ongoing threat that North Korea poses not only regionally but globally. At the end of 2017, the UN Security Council

formally announced Resolution 2397. This resolution tightened sanctions on North Korea's ability to import oil (reducing nearly 90%) and reducing other trade on astronomical levels. Additionally, "The asset freeze was also imposed on the Ministry of the People's Armed Forces, which manages the general administrative and logistical needs of that country's military."⁵² Consequently, this was a shock to North Korea and yet the threats continued to proceed. Not long after, North Korea reached out to South Korea to proceed with Inter-Korea summits which will be discussed in the next section.

As you can see Kim Jong Un has placed particular emphasis on North Korea's Nuclear Development. While the emphasis was supposed to collaborative and parallel with its economic development – we can see that neither were regarded as parallel, nor equal. Kim Jong Un continues to emphasize the importance of military progress in order to protect the North Korean regime from outside threat. However, in recent years we have seen a shift of sensible cooperation amongst the nation and its enemies which have resulted in significant progress. Despite this, North Korea continues to rely on its emotions and general skepticism towards others. Juché continues to stagnate North Korea's development, partnership and cooperation other

⁵²“Security Council Tightens Sanctions on Democratic People's Republic of Korea, Unanimously Adopting Resolution 2397 (2017) | Meetings Coverage and Press Releases.” *United Nations*, United Nations, 22 Dec. 2017, www.un.org/press/en/2017/sc13141.doc.htm.

nations as well. Until North Korea can learn to co-exist and learn to trust with other nations, security will continue to be an issue for the country.

7.2.3 International Political Engagement

In the past 3 years, we have seen significant international political engagement between North Korea's leader Kim Jong Un, South Korea's President Moon Jae In and United States President Donald Trump. After Resolution 2397 in 2017, North Korea began talks with South Korea to discuss the possibility of North Korea's participation in the 2018 Winter Olympics which was prepared to take place in Pyongchang, South Korea. This was a turning point in terms of facilitating discussion between the two countries.

In January 2018, North Korean and South Korean officials met at Panmunjom (판문점) to discuss a variety of things including the re-establishment of the DPRK-ROK hotline and the 2018 Winter Olympics. In February, "Kim Yo Jong, Kim Jong Un's sister, meets with South Korean President Moon Jae-in in the Presidential Blue House in Seoul, and invites Moon Jae-in to visit Pyongyang for a summit meeting."⁵³ This established the road to building closer relations and cooperation between the two Korea's - which was a milestone many were unsure would ever occur.

⁵³"Chronology of U.S.-North Korean Nuclear and Missile Diplomacy." *Chronology of U.S.-North Korean Nuclear and Missile Diplomacy* | Arms Control Association, May 2020, www.armscontrol.org/factsheets/dprkchron.

In April, Kim Jong Un officially met with Moon Jae In at the Inter-Korea Summit which took place at the JSA. Kim announced he would suspend further nuclear testing in the attempt to restore relations and cooperate to bring peace to those living on the Korean peninsula. This was one of the biggest milestones for the two Korea's as they forged a bond and general understanding towards one another. On June 12, 2018 - North Korean leader Kim Jong Un and US President Donald Trump met in Singapore at the Capella Hotel for the first time in history. Both mutually agreed and signed a joint declaration which would help to foster the strained relations between the United States and North Korea. Additionally, Kim expressed his want and general willingness to denuclearize the Korean peninsula.

In September 2018, President Moon Jae In travelled to Pyongyang to resume talks with North Korea leader Kim Jong Un. This followed by the signing of the Pyongyang Joint Declaration which stipulates the active role in making measures to create a peaceful environment on the Korean peninsula and to often engage communicatively with one another. As well as, work towards cooperate efforts to dismantle the nuclear program in North Korea and cooperate with other matters involving the Korean peninsula. At the end of July, North Korea had made a generous agreement to fly the remains of fifty-five American soldiers who died during the Korean War to be returned and months prior they had released multiple US prisoners to US custody. This was a turning of a new leaf for North Korea

to cooperate and co-exist amongst the world's people instead of closing itself off from society.

These collaborative discussions continued with meetings between U.S. Secretary Mike Pence visiting Pyongyang and the groundbreaking ceremony in Kaesong. This was indeed another milestone for the two Korea's as they previously discussed this Inter-Korea event nearly eight months prior which is seen as an example of follow-through and commitment towards fostering relations. In 2019, the United States and North Korea began talks to hold a secondary summit between the two leaders. In February, both leaders meet in Hanoi, Vietnam. North Korea had asked the U.S. to remove nearly all sanctions for only a partial dismantlement of the North Korea nuclear program to which the US refused to accept. However, letters continued to be exchanged between US President Donald Trump and North Korean leader Kim Jong Un in the following months. In June 2019, President Donald Trump met with Kim Jong Un at the DMZ which is now the biggest accomplishment to date. President Donald Trump became the first US President to cross the DMZ threshold. However, after this event North Korea continued to launch test missiles and eventually North Korea begins the threaten to resume nuclear development and testing. Since then, North Korea has continued to rebuild and restart parts of its nuclear program and the relations between the US and DPRK have remained strained. On June 16th 2020, North Korea blew up the

joint liaison office in Kaesong and just weeks before cut off the ROK-DPRK hotline communication.

On July 9th 2020, President Donald Trump announced his willingness and desire to meet with the North Korean leader Kim Jong Un. Despite this, it was reported Kim Jong Un's sister, Kim Yo Jong stated that, "another summit would "not be useful to us" unless the U.S. changes its approach to stalled nuclear talks, the state-run Korean Central News Agency (KCNA) reported Friday."⁵⁴ Therefore, for the time being, relations will remain stagnated until both parties can come to a middle ground in terms of genuine cooperative work and discussions in regard to denuclearizing the Korean peninsula.

As you can see, Kim Jong Un has made continuous effort to communicate and be cooperative with not only the United States but its neighbor South Korea over the last three years. This still remains as the foundation of future relations between the three countries as these efforts provide a baseline for future cooperation and collaboration. However, North Korea lacks patience in the process and has shown an unwillingness to comply with necessary complete dismantlement of the North Korea Nuclear Program. Regardless, North Korea plays a significant role in the mission to provide peace for all on the Korean peninsula.

⁵⁴ Gallo, William. "North Korea Says It's Not Interested in Another Trump-Kim Summit." *Voice of America*, 9 July 2020, www.voanews.com/east-asia-pacific/north-korea-says-its-not-interested-another-trump-kim-summit.

In this chapter, it is evident to see that North Korean leader Kim Jong Un has been taking the necessary steps toward fostering relationships and creating a new vision for North Korea. While his efforts may be seen as controversial, this chapter offers proof that Kim Jong Un is concentrating on a variety of activities that will foster the growth of North Korea on an international scale. The next chapter will discuss the history of agricultural reform policies in North Korea, Kim Jong Un's involvement in the agriculture sector and how it plays an important role in the continuation of the North Korean regime.

Chapter 8

Agriculture Reform Policies

In order to continue with the topic of Agriculture Reform Policies – it is essential to explain exactly what they are. Agriculture Reform Policies are policies that are put into action that specify rules and guidelines for the use of agricultural lands. They determine what arable lands can be used and cultivated and who can use them. These policies have changed drastically since the establishment of the DPRK. In this chapter, it will explore the history of agricultural reform policies and reform policies under the North Korean leader Kim Jong Un.

8.1 The History of Agriculture Reforms Policies in North Korea

In 1946, Kim Il Sung introduced the first land reform regarding North Korea’s agricultural sector. “The land reform laid the social and economic groundwork for socialism in the country and made the cooperative movement possible. The regime undertook the land reform in March 1946, only one year after the Korean peninsula was divided into southern and northern zones of occupation. The movement-built support from farmers, which stabilized the regime.”⁵⁵ This allowed for smooth movement between the farmers and the government in the development of

⁵⁵ Nam, Sung-Wook. “Chronic Food Shortages and the Collective Farm System in North Korea.” *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

agriculture policies. In the table below, you will be a timeline of major agrarian policies and collectivization for North Korea from 1946-1958.

Table 6. Major Agrarian Policies and Collectivization, 1946-1958

| Year | Month/ Season | Developments |
|------|------------------|--|
| 1946 | January | Establishment of Farmers' Union |
| | March | Announcement of the law on the land reform |
| | April | Launch of the Farmers' Bank |
| | May | Launch of the Consumption Collectives |
| | September | Announcement of the law on land irrigation and management |
| | October | Announcement of the law on nationalization of key industries |
| 1947 | December | Announcement of the law on underground resources, forests, and water areas |
| 1948 | | Establishment of state-run farms |
| 1950 | Spring | Establishment of farming machinery rental houses |
| 1953 | August | Decision to collectivize agriculture |
| 1954 | April | Start of collectivization |
| 1954 | August | Enactment of the Agreement of the Agricultural Cooperatives |
| 1958 | April | Launch of the credit unions |
| | August | Completion of collectivization |
| | October | The consolidation of the collectives at the level of the <i>ri</i> |

Source: Institute of North Koreanology, Comprehensive Study of North Korea: 1983-1993 (Seoul: the Institute of North Koreanology, 1994, in Korean); Kim Gi-beom *우리 나라 농촌문제 해결의 빛나는 경험* [Distinguished Experiences in Solving Problems in Rural Areas in Our Own Style] (Pyongyang: Publisher for Agriculture, 1992, in Korean)

Provided By: Nam Sungwook

* Note: Consumption collectives were organized for farmers' common consumption of light industry within the collective farms.

As you can see from the table above, it took over ten years to establish and implement this policy. In April 1954, North Korea decided to begin collectivization which was a Soviet Union socialist policy that was

developed in the 1920s and 1930s. Collectivization entails smaller farmers to give up their land and join “collective” farms. The main idea behind collectivization is that the farms could use bigger equipment, resources and produce more crops than they could individually. However, the negative side of collectivization is that it requires the farmers to sell majority of the crop yield to the government. Therefore, the government gained a fair amount of control in terms of the nation’s arable land but it’s distribution as well. “When the collectivization was completed in 1960, North Korea’s farmland was divided into 3,736 collective farms amounting to 1,789,000 hectares (about 17 billion square meters). Two decades later, the total number of collectives had decreased by about 20 percent due to mergers and annexations.”⁵⁶ The collectivization system was set to convince and encourage farmers to work harder to produce more yield. In 1960, North Korea introduced the work incentive system. This system was unique in the fact that it allowed farmers to benefit from their hard work. “Farmers could keep the output in excess of 90 percent of their team target, with the members of teams with such surpluses distributing the extra output based on labor days”⁵⁷ In regard to resources, collective farmers have the advantage of government assistance in regard to necessary tools to support agriculture

⁵⁶ Nam, Sung-Wook. “Chronic Food Shortages and the Collective Farm System in North Korea.” *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

⁵⁷ Nam, Sung-Wook. “Chronic Food Shortages and the Collective Farm System in North Korea.” *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

production. However, the collective farms had no say in the types of agriculture they could produce. Instead, the government provided the farmers with the types of produce they were to grow. Therefore, the farmers would have to settle for the types of agricultural production they were assigned. The North Korean government created this policy to avoid any error in production and allowed for equal distribution of various agriculture products to ensure various crops would be yielded. As time passed, more restrictions and advantages were placed upon the collective farmers. For one, the North Korean government terminated the rule against farmers lack of production. Prior to this, if the collective farmers produced less than 90 percent of their target, they would have their distribution portion decreased. “The typical distribution in grain for a farmer is 400 kilograms of whole grains, or 270 kilograms of milled grains, for a year. This amount is roughly on the same level with a distribution of 700 grams per a day for an average urban.”⁵⁸ As food scarcity began to become an evident issue, the North Korean government began to place large taxes against the collective farmers and reduce their distributed portion in order to feed the Military. The Military is the primarily source of the regime’s survival. Without fed soldiers – who will protect the Democratic Republic of Korea from outside sources?

⁵⁸ Nam, Sung-Wook. “Chronic Food Shortages and the Collective Farm System in North Korea.” *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

In the mid 1990's, droughts were followed by heavy rains which resulting in the flooding of the collective farms. These floods eroded the soil which at the same time had already been depleting due to the overuse of chemical fertilizer. Climate and economic and agriculture mismanagement brought North Korea to the forefront of food insecurity. The crop yields decreased drastically, and the government had to seek outside assistance in securing food for their citizens. However, as we all know, the food was not distributed properly and led to countless deaths.

The Work Squad System was introduced in 1996. This system was designed to increase productivity during the famine. The team would be assigned a certain agriculture produce to yield. If they produced in excess (similar to the policy before) they would be able to keep the remaining yield. The farmers had the option to keep the excess or they could sell it for profit. This was designed and implemented in order to encourage the collective farmers to work cohesively together to combat the food scarcity issue. However, it would be admitted later on that the system was not inducted nationwide and that government follow-through was all but absent. "After enforcement of the 1996 group control system, however, the guaranteed minimum distribution to farm families was abolished. Thus, if farmers didn't work, they wouldn't get any food for their family at all."⁵⁹

⁵⁹ Nam, Sung-Wook. "Chronic Food Shortages and the Collective Farm System in North Korea." *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

With the climate and government issues rapidly effecting the agriculture in North Korea – the country tried to adapt by creating new policies to ensure food security domestically. They had outsourced for several years, but seemingly wanted to fix to domestic food security issue. “In addition to various technological measures, it enacted the *Agricultural Code* in January 1999 that allowed farmers greater freedom to choose crops most appropriate for the specific area.”⁶⁰

After the reform policies of 1996 and the Agricultural Code of 1999, North Korea saw very few developments in terms of agricultural policies until 2002. In 2002, North Korea announced that the agriculture sector would embark on an Economic Management Reform Policy. “The core of North Korea's economic reform measures are to introduce an incentive system, strengthen responsible management, and implement a family-owned farming system. In addition, the reforms include increasing wages and consumer prices, partially eliminating the national rationing system, raising foreign exchange reserves, and establishing a commercial bank.”⁶¹ For a socialist country, these types of reforms and developments in general seemed very hard to believe. However, North Korea was elusive in their plans to reform the current agriculture sector to provide economic stability and food security for the North Korean regime. After all, this would allow

⁶⁰ Nam, Sung-Wook. “Chronic Food Shortages and the Collective Farm System in North Korea.” *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

⁶¹ Nam, Sung-Wook. “Chronic Food Shortages and the Collective Farm System in North Korea.” *Journal of East Asian Studies*, vol. 7, no. 1, 2007, pp. 93–123.

for the survival of the regime. In the table below, you will see policy changes from July 2002 to May 2014.

Table 7. Significant Economic Policy Changes Affecting Agriculture

(Below)

| Date | Policy |
|-----------|--|
| July 2002 | "7.1 measures". Devalue KPW from 2.12 to 150 per US\$. Set new prices for farm products and food in PDS. Set new salaries for non-farm workers |
| 2004 | SWT size reduced in a few counties; farm quotas disaggregated to SWT level. |
| 2005 | Prior changes in SWT size and organization quietly erased. Reaffirmation that all grain sales must be to the government, not in the market |
| 2007 | Men prohibited from trading in markets; later that year women under 40 years old prohibited; later extended to women under 50 years old. |
| June 2009 | Pyongsong market in Pyongyang closed and split into smaller markets |
| Nov 2009 | Currency redenomination |
| June 2012 | "6.28 measures". Reduce SWT size, disaggregate quota to SWT level and SWT keeps 30% of quota plus excess; private investment OK by certain organizations. Initially implemented in select counties |
| Feb 2014 | Convention of SWT leaders receive letter from Kim Jong Un amplifying details of 6.28 measures |
| May 2014 | "5.30 measures". Further reduce SWT size, change farmer share to 60% of quota and may be sold. Stability of land "tenure" for SWTs. |

Source: W. Randall Ireson (Rural Development Solutions)

*Note: SWT = Sub Work Teams

Some significant changes occurred in the administration before Kim Jong Un assumed his position in North Korea. From 2004, North Korea began to reduce the size of SWT only to reverse these changes a year later.

The next year, North Korea changed the policy regarding selling surplus agriculture products (grain, corn, etc.) to the markets. From 2005 forward, the farmers were only allowed to sell the surplus production to the government. In the following years, there were developments in regard to selling in markets. In 2007, men had been banned from selling within the market and women under 40 as well. “Pyongyang market traders are all women. The author was told by North Koreans that this was because men were banned from trading as the regime considered that they should be involved in more productive work.”⁶² However, the North Korean government decided to increase the age for women to 50 years and under. This created a fair amount of difficulties for those who relied on market selling to provide for their families. Despite this, the increase in Jamangdang (자망당) still remained an intricate part of food security. “In mid 2009 the Pyongsong Market in Pyongyang was closed and split into two smaller markets”⁶³ Within a few months, North Korea went through a currency redenomination. To further explain this process, currency redenomination is when the government exchanges the former currency with a new currency usually due to issues like inflation. For example, it is

⁶²Evevard, John. “The Markets of Pyongyang.” *Korea Economic Institute*, vol. 6, ser. 1, Jan. 2011. 1.

⁶³ Ireson, W. Randall. “North Korean Agriculture: Recent Changes and Prospects after Unification.” *International Council of Korean Studies*.

essentially like taking a ₩1,000 slip and eliminating the zeros to create a new face value. This was one the major changes that took place before the death of former Leader Kim Jong Il in December 2011. After his death, his son Kim Jong Un would work to make the agriculture sector more prosperous by initiating many new policies and reforms.

8.2 Agriculture Reform Policy under Kim Jong Un

On December 30, 2011 Kim Jong Un assumed power of the North Korean regime under the title of the Supreme Leader. Since this time, Kim Jong Un has made many significant changes to the structure of the agricultural sector and the research and development of food security. In June of 2012, North Korea addressed new policies regarding agriculture. “Key provisions were that SWTs should be kept small (10-12 persons), would be responsible for their own production decisions, and would keep 30 percent of their production quota plus any excess over the quota. Whether the retained grain surplus could be sold in the open market or must be sold to the state was not entirely clear.”⁶⁴ The new wave of measurements called for significant change that would take some time to implement in the North Korean agriculture sector.

In 2014, Kim Jong Un had begun promoting a new agricultural reform policy called the ‘Field Responsibility System’. This reform policy

⁶⁴ Ireson, W. Randall. “North Korean Agriculture: Recent Changes and Prospects after Unification.” *International Council of Korean Studies*.

would prove to be one of Kim Jong Un's great missions to make North Korean agriculture more prosperous and productive. In the next section, it will discuss the Field Responsibility System in further detail to fully understand the new reform policy under North Korean leader Kim Jong Un.

8.2.1 Field Responsibility System (FRS)

The Field Responsibility System (FRS) was introduced by Kim Jong Un during the 5.30 measures in 2014. This would be the beginning of a new Agricultural Reform Policy that North Korea would adapt to over the course of many years. The following month, the North Korean government requested SWT groups to report to Pyongyang to attend a convention where Kim Jong Un further expanded the measures. These new policies included further decreasing size of SWT and the percentage of production that the farmers would receive was increased significantly to 60 percent of their yearly quota. This was a drastic increase as the former percentage half of the new provision. This policy would prove beneficial as farmers would be allowed to sell their surplus in the markets which was strictly prohibited in the past policies. Despite the large percentage increase, the state would retain a large portion of the production.

According to experts, this system appears to be similar to that of China's family farming – however, the Chinese system is rapidly fading which causes a fair amount of concern for outside onlookers. Regardless,

this kind of agriculture policy is unique as it would most likely require farmers to work alongside their families due to decreased size in SWT. "With this small number of three to four, workers tend to work harder because they often work with their own family members. Kim also said the North has adopted a profit-oriented reward system away from one based on hours spent in a given area of work."⁶⁵ It is believed that working in smaller groups and having incentive will drive the SWT improve their overall productivity and work hours – thus, improving the agriculture sector.

This policy has been regarded as the core element of the agricultural reform policy under Kim Jong Un. However, many scholars and specialists are unsure of the overall implementation of it all. "The so-called 'field responsibility system' has reduced the size of work teams. Some see this as tacit de-collectivization, but the evidence for this is fragmentary and the degree to which this system has been applied nationwide is not known."⁶⁶ Regardless, we can see movement by the North Korean regime in an attempt to put policy to practice in the hopes of securing food domestically.

⁶⁵ Jung, Da-min. "North Korea Highlights Incentive System in Agriculture." *Korea Times*, 31 Aug. 2018, www.koreatimes.co.kr/www/nation/2018/09/103_254852.html.

⁶⁶ Sorenson, Clark. 28 April 2020. Interview. (see Appendix)

Chapter 9

Observation and Analysis

This section will conduct observation and analysis of the recent agriculture developments and setbacks under Kim Jong Un's leadership. Due to the fact that North Korea remains a private and closed-off nation – it is nearly impossible to get truthful and detailed data out of Pyongyang. Therefore, it is essential to discuss the different methods in which North Korea is utilizing to secure food through observation. In return, this will provide information as to whether or not Kim Jong Un is taking measures to provide food security for the North Korean people. Agriculture developments will include military run farms, greenhouse farms, fertilization plants as well as looking into the continuation of the FRS. In addition, it will examine the setbacks which include continuation of climate disturbance, limited resources and lack of policy enforcement. It is essential, given the current world pandemic (COVID-19) that we explore how this too, is affecting North Korea. Once the observation has been conducted, it is the hope that we can conclude as to whether or not Kim Jong Un is taking measures to secure food for North Korea.

9.1 Agriculture Developments

Agriculture Developments have remained active in North Korea. In recent years, Kim Jong Un and the North Korean government have been

active in the agricultural sector. It has been observed that Kim Jong Un has remained involved in military run farms, greenhouse farm development and the opening of fertilizer plants. However, it is important to explore and observe Kim Jong Un's involvement closely as it is our only form of data available. In the next section, it will discuss military run farms and its recent developments.

9.1.1 Military Run Farms

Military run farms are military-owned collective farms in which soldiers operate and work on. Due to this, the military plays an instrumental role in the cultivation of arable land and agricultural development. Beyond protecting the country from invasion, the North Korean military is held responsible for the maintenance of farm fields including planting and harvesting crops. “Each branch of the KPA has logistics departments that manage livestock and farmland for military consumption.”⁶⁷ This is an essential part of one's duty as a soldier within many regions of North Korea – especially those with more prosperous farmlands. “Whether elite military officers or the rank and file, we all had to keep helping farmers, it was part of our daily life and duty as a party organ,” said Choi Joo-hwal, a former

⁶⁷ Joo, Jeong Tae, et al. “Kim Jong Un Tightens Control over Military-Run Farmland.” *Daily NK*, 26 Mar. 2020, www.dailynk.com/english/kim-jong-un-tightens-control-over-military-run-farmland/.

veteran military officer with a 27-year career at North Korea's Ministry of People's Armed Forces."⁶⁸ While military run farms may not be a new development to North Korean Society, it has become evident that Kim Jong Un has been observing and paying closer attention to these operations.

In October 2019, Kim Jong Un accompanied by other party members toured farm run by Korean People's Army (KPA) unit 810. "The only thing we can rely on is the power of science and technology," Kim was reported to have said in an English-language report carried by KCNA."⁶⁹ It has been stated that Kim has been working hard to solve the food security issue with the use of science and technology in the agricultural sector. "Nationwide effort should be directed to getting familiar with the global trend in agriculture development and bringing about innovation in all agricultural fields," the DPRK was reported to have ordered, calling for "extending manpower of agricultural scientific research."⁷⁰ While Kim Jong Un has been appearing less in the public eye, this was the first visit to a

⁶⁸ Park, Ju-min. "North Korea's Peasant Army Gets Ready to Farm, Not Wage War." *Reuters*, Thomson Reuters, 9 Apr. 2013, www.reuters.com/article/us-korea-north-military/north-koreas-peasant-army-gets-ready-to-farm-not-wage-war-idUSBRE93814F20130409.

⁶⁹ Hotham, Oliver. "Kim Jong Un Tours Military-Run Farm in First Appearance in Almost a Month: NK News." *NK News - North Korea News*, 9 Oct. 2019, www.nknews.org/2019/10/kim-jong-un-tours-military-run-farm-in-first-appearance-in-almost-a-month/.

⁷⁰ Hotham, Oliver. "Kim Jong Un Tours Military-Run Farm in First Appearance in Almost a Month: NK News." *NK News - North Korea News*, 9 Oct. 2019, www.nknews.org/2019/10/kim-jong-un-tours-military-run-farm-in-first-appearance-in-almost-a-month/.

agriculture field in nearly two years. Last spring, the UN reported that nearly 10 million North Koreans are suffering food shortages. With this knowledge and the amount of imported foreign aid diminishing – it seems as if Kim Jong Un is starting to resort to more advanced methods in terms of agricultural advancement.

Recently on January 20th , “North Korea held an agricultural conference to discuss ways to increase food production, state media said Monday, amid Pyongyang's intensifying "self-reliance" efforts in various areas in the face of crippling global sanctions.”⁷¹ It was said that participants are looking in to additional resources that could benefit the agricultural sectors production.

In March 2020, Kim Jong Un recently tightened the reigns on military run farms. He issued an order on a military assessment regarding the military run farmlands and stated that the military and the cabinet will be co-managing the farmlands. “Daily NK sources also indicated that Kim’s new order is part of an attempt to eliminate corruption involving KPA-run farmland. Corruption has long been a problem for KPA-managed farms. Harvests from farmland tilled by soldiers have been preyed about by

⁷¹고병준 . “N. Korea Holds Agricultural Conference to Discuss Increasing Food Production.” *Yonhap News Agency*, 19 Jan. 2020, en.yna.co.kr/view/AEN20200120000900325.

powerful military officials.”⁷² This provides some evidence that Kim Jong Un is concentrating heavily on not only corruption but how it directly effects food security in North Korea.

These recent developments do show certain progress in terms of agricultural development and food security maintenance. Furthermore, it is essential to take a broader look into various areas to get a better picture of the types of developments Kim Jong Un is making in North Korea.

9.1.2 Greenhouse Farms

Greenhouses provide shelter for crops in order to ensure they can grow not only year-round but that they are protected from the outside elements. Greenhouses stay warm inside due to gases that are released from the soils and allow for multi-directional light sources which aid in the growing of vegetation. Greenhouses are resources that can provide food security for countless families – which explains Kim Jong Un’s interest in them.

On October 18th 2019, Kim Jong Un accompanied by other Senior party officials visited a greenhouse development project that has been under construction since August 2018. They visited Jungphyong Vegetable

⁷² Joo, Jeong Tae, et al. “Kim Jong Un Tightens Control over Military-Run Farmland.” *Daily NK*, 26 Mar. 2020, www.dailynk.com/english/kim-jong-un-tightens-control-over-military-run-farmland/.

Greenhouse and Tree Nursery which is in Hamyong Province. Kim Jong Un in recent years has discussing the need to increase agriculture production in order to provide people with nutritious food and combat food insecurity. “(Kim) said ... to build such a modern greenhouse farm in each province to supply various species of fresh vegetables to the people all the year round is a thing he has long wanted to do certainly,’ it said.” The Jungphyong Vegetable Greenhouse and Tree Nursery is quite a large-scale accomplishment for the young leader to finish in less than two years. With this development, it could provide families with the proper nutrients by using sustainable technology. Despite this, large scale projects as such require large amounts of funding and may take many years before similar projects are seen throughout North Korea.

Greenhouses are beginning to spring up in various regions throughout North Korea. Farms are gradually turning to greenhouses as they provide substantial protection from torrential climate conditions and provide year-round cultivation. In addition, “The Pyongyang Vegetable Science Institute is reportedly providing general “technical support” for greenhouse-based cultivation in the provinces. The lack of materials and expertise, however, make it extremely difficult for isolated farms to build and

maintain greenhouses, sources reported.”⁷³ Therefore, the biggest challenge is the lack of resources in regard to building such projects in provinces all across North Korea. If greenhouse developments continue to spring up countrywide, there is a very good chance North Korea could decrease some of its food security issues. This not only provides the people of North Korea with sustainable year-round crops but gives them the technology to improve their agricultural sector thus possibly improving their economy.

9.1.3 Fertilizer Plant

For many years, the DPRK relied on imported resources such as food aid, machinery, fertilizer and pesticides. These are important materials that are necessary in order to properly cultivate agriculture. However, in the mid 1990’s North Korea developed fertilizer plants during the famine to increase food production. Despite this development, many were closed almost immediately after they opened. Unfortunately, there are no viable sources to look into whether or not those fertilizer plants still remain closed. There fertilizer plants still stand today but many – including the largest – have become no longer operational in recent years. “Fertilizer production had been decreasing for several years, due to the lack of electricity and acquiring

⁷³ Kang, Mi Jin. “Greenhouse Vegetables: An End to N. Korea’s Food Shortages?” *Daily NK*, 26 Jan. 2020, www.dailynk.com/english/greenhouse-vegetables-an-end-north-koreas-food-shortages/.

raw materials. Production stopped entirely in spring.”⁷⁴ These are unfortunate circumstances in terms on creating resources domestically – which should come as a strain financially to the DPRK. However, there have been new developments in the last month that prove possible developments for fertilizer plants in North Korea.

On May 1st, Kim Jong Un attended the completion ceremony of the Sunchon phosphatic fertilizer plant that was not far from the capital of Pyongyang. This was an accomplishment for not only Kim Jong Un but the DPRK in terms of having reliable and domestically resourced materials for the agriculture sector. “He set forth the tasks and ways for developing our chemical industry in a correct orientation as required by the new century including rebuilding and updating fertilizer factories as a whole, and building more chemical industrial bases,” the Korean Central News Agency reported on the visit.”⁷⁵ These factories make great strides for North Korea but rise concern in many countries in terms of new developments in North Korea’s Nuclear Weapon Program. With that aside, having sustainable resources domestically comes as a big relief to North Korea as their yearly import costs will greatly decrease with this new establishment. Not to

⁷⁴ Jang, Seul Gi. “N. Korea's Largest Fertilizer Complex No Longer Operational.” *Daily NK*, 16 Jan. 2020, www.dailynk.com/english/north-korea-largest-fertilizer-plant-no-longer-operational/

⁷⁵ Panda, Ankit. “Kim Jong Un Reappears to Open Fertilizer Plant After Rumor-Heavy Absence.” *The Diplomat*, 4 May 2020, thediplomat.com/2020/05/kim-jong-un-reappears-to-open-fertilizer-plant-after-rumor-heavy-absence/.

mention it will provide chemical fertilizer to many of North Korea's farms and greenhouses nationwide. Without which may not yield to its full potential.

9.1.4 Expansion of Agriculture Science Research Institutes

Since rising to power less than a decade ago – Science and Technology have been the forefront mission for Supreme Leader Kim Jong Un. On December 27th 2019, an “[...] article emphasized that ‘agricultural science research institutions can solve the scientific and technical problems associated with the scientific systematization and optimization of agricultural production and lead the way in scientific agriculture.’ This shows that North Korea had been striving to invest in agricultural science research institutions even before the plenary session.”⁷⁶ In recent years, the North Korean government have paid special attention to agricultural science research knowing very well it could be the forefront of the future to combat fluctuating production and climate disturbance. Therefore, it was “reported that “the Provincial Agricultural Science Research Institute and the Wonsan Namsae Research Branch were refurbished.”⁷⁷ This essentially is leading

⁷⁶ Kim, Kwan Ho. “Realities N. Korea Faces in Improving Agricultural Production.” *Daily NK*, 27 Jan. 2020, www.dailynk.com/english/realities-north-korea-faces-improving-agricultural-production/.

⁷⁷ Kim, Kwan Ho. “Realities N. Korea Faces in Improving Agricultural Production.” *Daily NK*, 27 Jan. 2020, www.dailynk.com/english/realities-north-korea-faces-improving-agricultural-production/.

way for the development of scientific research regarding agriculture in North Korea. Furthermore, it is showing developments are being made to develop agriculture in new modern and efficient ways that can help establish food security.

9.1.5 Reform Policy Success

There have been recent reports of success in regard to the new agriculture reform policy that was introduced by Kim Jong Un. However, mostly on select farms in select regions. However, results have been promising in regard to be new policies which allow farmers to take the initiative in their own farming. “Ryanggang Province is a mountainous region, so the crops we planted were mostly barley and potatoes. Farmers worked hard under the new system and they produced more plentiful and better-quality crops than regular farms,” one Daily NK source in the province said.”⁷⁸ Despite this agricultural development, one can see that giving farmers the initiative and control of farmlands combined with the incentive of keeping in excess of 60 percent of crops to be catalyst for production developments. However, this varies from region to region and crop to crop. While these developments seem promising - the fine details

⁷⁸ Kim, Yoo Jin. “New North Korean Agricultural System Yields Promising Results.” *Daily NK*, 16 Jan. 2020, www.dailynk.com/english/north-koreas-new-agricultural-system-yields-promising-results/.

and evidence seem fragmented. With that being said, it seems that the FRS is making leeway for new policy develop success in North Korea.

9.2 Agriculture Setbacks

With all developments, we face potential setbacks and delays. Things don't always go according to plan and unfortunately you can't plan for every potential disturbance. With that being said, there are many agriculture setbacks that North Korea faces despite the agricultural developments. Some of them include; continuation of climate disturbance, limited resources and lack of policy enforcement. In this section, we will discuss all of the above setbacks as well as look at the complications due to the COVID-19 pandemic.

9.2.1 Continuation of Climate Disturbance and Limited Resources

Climate disturbance remains to be a serious issue that plagues the agricultural sector in North Korea. As noted, North Korea has limited arable land and in addition, much of this land is situated between mountains. Therefore, it is prone to flooding more frequently. North Korea has experienced a stint of droughts and floods over the year and this continues to be a serious issue North Korea. For this reason, North Korea worked on the development of other sources to procure food for the North Korean people – through developments like Greenhouses which are protected from

outside disturbance. However, most of North Korea's agriculture sector is in un-protected fields leaving it exposed to the elements.

In the recent WFP Global Report on Food Crises (GRFC), it reported that nearly 10 million people were facing food shortages as climate disturbances had affected the agriculture sector in North Korea. "The main drivers were prolonged dry spells, abnormally high temperatures and floods that severely reduced the 2018 main season cereal production (mostly rice and maize). The early season wheat, potato and barley crops, harvested in June and important to fill food gaps during the lean season, were affected by low snow cover, which exposed crops to freezing temperatures, limited water availability and poor rains."⁷⁹ As you can see climate has continued to disturb the agriculture productivity and potential in North Korea. This poses many serious issues for those who rely on the farm fields as not only a source of nutrition but a source of income as well. However, as mentioned before this alone could be a driving force in the research of new agricultural science and technology.

On May 3rd 2019, The UN reported "The aggregate 2018-2019 food crop production is estimated at 4.9 million metric tons, which is the lowest

⁷⁹ "Global Report on Food Crises." 2020 - *Global Report on Food Crises | World Food Programme*, 20 Apr. 2020, www.wfp.org/publications/2020-global-report-food-crises.

since the 2008-2009 season.”⁸⁰ However, the loss in production is not completely attributed to the climate disturbance. It was reported that limited resources had played a pivotal role in the lack of yield – things such as, tools, fertilizer and even fuel were in dire need. Without these resources, it’s near impossible to yield to full potential. In addition to these poor conditions, North Korea’s PDS decreased the daily rations from 550g to 300g per person.⁸¹ If you refer to Table 4, you will see that this the amount that is typically rationed to a child age six and under. Therefore, many are not receiving adequate nutritional rations to survive the conditions in North Korea. Therefore, it is essential that North Korea look into science-based reforms to combat the issue with climate disturbance. If not, they could be facing a continual battle against an unpredictable enemy.

9.2.2 Unrealistic Expectations

It comes as no surprise, that the DPRK has always set unrealistic expectations not only for its people but its main driving forces as well (military, construction, agriculture etc.). Recently the Central Committee of the Workers’ Party of Korea (WPK) has announced new measures being

⁸⁰“North Korean Families Facing Deep 'Hunger Crisis' after Worst Harvest in 10 Years, UN Food Assessment Shows || UN News.” *United Nations*, United Nations, 3 May 2019, news.un.org/en/story/2019/05/1037831.

⁸¹ “North Korea 'Facing Poor Harvest' amid Food Shortages.” *BBC News*, BBC, 9 Nov. 2019, www.bbc.com/news/world-asia-50359435.

taken to increase production – which to many seem unattainable. ““They are ordering us to submit plans to increase production on an individual and work unit basis, but everyone is frustrated because they don’t know what to do.”⁸² As stated before, North Korea’s resources are very limited and with imports decreasing every year this poses a serious problem. With the lack of essentials like fertilizer, fuel, pesticides and climate instability – it makes increasing production unrealistic and unfathomable. “North Koreans, however, are reportedly frustrated that these calls are little more than propaganda slogans devoid of any practical plans to improve crop yields.”⁸³ Therefore, until North Korea can substantially provide these resources in equitable amounts, this will remain a challenge for North Korea.

9.2.3 Lack of Guidance

North Korea has been notorious for its lack of guidance in regard to agricultural reform policy implementation. Before the introduction of the Field Responsibility System, “[...] quality and intensity of their work was not well measured, because the sub-work teams were large and sub-work

⁸² Mun, Dong Hui. “N. Korea Presses for Unrealistic Increases in Farm Production.” *Daily NK*, 3 Feb. 2020, www.dailynk.com/english/north-korea-presses-unrealistic-increases-farm-production/.

⁸³ Mun, Dong Hui. “N. Korea Presses for Unrealistic Increases in Farm Production.” *Daily NK*, 3 Feb. 2020, www.dailynk.com/english/north-korea-presses-unrealistic-increases-farm-production/.

team leaders did not have the means or motive to measure work quality.”⁸⁴

As discussed in previous sections, farmers are left to their own devices in terms of farm management and guidance from authorities. While this may seem like a dream for some farmers, it places a lot of pressure of SWT farmers in terms of proper protocol and getting the appropriate resources necessary to harvest crops. With the introduction of the FRS, this gave farmers more freedom but also caused them stress in terms of developing detailed agriculture plans and procedures. Additionally, when examining the past, we can see that farmers were subjected to strict rations in terms of personal distribution of crop. However, over time conditions have worsened and harvests have decreased in yield. When explored, this leads us to wonder if North Korea is following through on policy protocol to allow farmers to keep a high percentage of crop. This seems highly unlikely due to the fact that government follow-through has continued to be a substantial issue in regard to agricultural developments in North Korea.

9.2.4 Complications due to COVID-19 Pandemic

In the case of North Korea, one of the major complications we see in relation to the COVID-19 Pandemic is that North Korea has closed off its

⁸⁴ Ward, Peter. “Masters of the Farm: North Korea's New Agricultural Entrepreneurs: NK News.” *NK News - North Korea News*, 8 Oct. 2018, www.nknews.org/2018/10/masters-of-the-farm-north-koreas-new-agricultural-entrepreneurs/.

borders - which could and will result in lack of food imports. For North Korea, imported food has been an essential aspect of their food security for many years. While the imports have continued to decrease since 2012, this still places an important role in North Korea's food security as nearly 40 percent of the population are facing food scarcity. As many countries worldwide are witnessing COVID-19's terror firsthand – this poses a threat to North Korea's food security. Many countries have closed borders and limited imports from all over the world to reduce the spread of COVID-19.

However domestically, little effort has been taken to protect citizens from the spread of COVID-19. Every spring, North Korea hosts a mobilization campaign which is essentially a rice planting competition. This year will be no exception. However, the conditions have been amplified due to the fact that COVID-19 is providing hardships to North Korea in terms of grain import. They have now begun conscripting housewives and children to support the mission in planting. “The free-labor drive comes as North Korea, which uses military phrases to motivate workers in agriculture and industry, is facing grain shortfalls made worse by COVID-19 border closures with China and longer-term deforestation threats as it cuts down forests to expand farmland, experts said.” In addition, North Korea has failed to provide proper gear in order to protect the farmers, women and children from the spread of the virus. While it is unsure as to whether not North Korea has seen cases of Coronavirus – these are still dire times where the government should seek to protect its citizens.

Overall, we do see that COVID-19 is placing pressure on North Korea due to food insecurity. However, prolonged periods of border closures with China and lack of food import could cause detrimental effects to not only the country but its citizens. Therefore, North Korea should look into developing new agricultural policies with the use of science in technology in order to increase their capability of handling the onset of a Pandemic. While famine has plagued the secretive nation for many years – the question is, how will they adapt to worldwide pandemics while still being dependent on food imports? Only time will tell, but surely COVID-19 will be the ultimate test for North Korean Society.

As we explore these developments and setbacks, it is clear to see that more developments are making headway for the agriculture sector and toward maintaining food security for North Korea. However, like all reforms and policies we see a fair number of setbacks. These setbacks are nothing new, as they have all been issues at one point or another. Despite this, it is critical to observe and analyze these types of developments as they play importance roles in the advancements of food security in North Korea.

Chapter 10

Conclusion

In conclusion, we can see that measures are being taken by Supreme Leader Kim Jong Un to establish food security in North Korea. Evidence has shown a number of ways in which he has worked to integrate new policies in the North Korean agriculture sector. First, we see through the introduction of the Field Responsibility System (FRS), a fair amount of success in terms of SWT dedication towards maintaining and cultivating has been evident. However, this evidence is sporadic, and we do see a lack in government management and guidance.

Additionally, we are seeing efforts being made to move past the former (and less efficient) policies and introduce new policies that contain more interest in developing modern agriculture techniques through the introduction of science and technology. Furthermore, these policies work as a reward system – rewarding the farmers for their contribution and efforts. In terms of other agricultural developments, we are seeing the continuation of military-run farms, large-scale greenhouses and fertilizer plant development as well expansion of the agriculture science research institutes. These developments are leading way toward North Korea obtaining food security domestically through the use of new policies and the spike in use of science and technology. While these developments are impressive for such a small and closed off nation – they do come with their fair share of setbacks.

In terms of setbacks, there are many things holding North Korea back from maintaining food security. These things include; continuation of climate disturbance, lack of resources, unrealistic expectations regarding agriculture, and lack of guidance from the North Korean government. These issues are still hindering the development of successful food security strategies in North Korea. Until they are addressed, they will continue to play significant roles in establishing food security domestically.

Overall, through observation and analysis I have seen massive shifts in the dynamics of regime change. Kim Jong Un concentrates on the development of science and technology in regard to bringing agricultural prosperity to North Korea. However, we know that North Korea is a stubborn state whose main concern is the strength of the military in order to combat outside threats. Therefore, these developments may seem encouraging to some, but the fact of the matter is that North Korea has a long way to go in terms of agriculture reform and development.

Therefore, in conclusion, this research finds evidence to support that North Korea is making major changes in terms of Agricultural Reform Policy due to failure of policies set in the past. Additional. evidence supports the Kim Jong Un is indeed working towards obtaining food security domestically while at the same time improving the agricultural sector for the survival of the North Korean regime.

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Appendix

A. Interview with Professor Clark Sorenson April 28, 2020

Professor Clark Sorenson is a professor at Jackson School of International Studies at the University of Washington in Seattle. He is currently the Chair of the Korea Studies program and the Director of the Center for Korean Studies at the University of Washington. He obtained a B.A in Geography from UC Berkeley and obtained a M.A. in Korean Studies and a PhD in Anthropology – both respectfully from the University of Washington. He has published numerous articles related to Korean Studies and is the author of *Over the Mountains are Mountains: Korean Peasant Households and their Adaptions to Rapid Industrialization*.

Question #1: From your perspective, what was the main cause(s) of the Famine that North Korea experienced in the 1990s?

Clark Sorenson: Years of ecologically damaging agricultural policy combined with secrecy about production and unwillingness to ask for help in time.

Question #2: Who is responsible for Food Security and Agriculture Development in North Korea?

Clark Sorenson: The public distribution system which used to be in charge of food security for most people was in the hands of the local party cadres. They were not in charge of production, however. Production is planned by the State Planning Committee at the highest levels that then forwards quotas and raw materials to the Provincial Planning Committees who then divvy these out to the counties. The counties then distribute quotas and materials to the cooperative farms. Each cooperative farm has a Farm Management Committee than plans for production. Quotas are remitted to the state that distributes the food to the respective distribution organs.

Question #3: What is the process of food collection and distribution in North Korea?

Clark Sorenson: Collective farms have quotas that they have to remit to the state that then redistributes food to the military and party as well as to the public distribution system. The military also has its own production facilities. While the public distribution system is supposed to supply people's needs in the past twenty years it has supplied less than half of the

food that people eat (with the exception of the military and party cadres that are taken care of). Most people have to buy most of their food on the market. How food gets to the market is an interesting question. Some is imported from China. Some is marketed directly by cooperative farms after they have met their quotas, but it is likely that a lot gets to the market through corruption—that is, food that should go to the public distribution system is diverted to the market by authorities who pocket the profit. This corruption would include food donated by the World Food Program and other donors.

Question #4: What types of measures were made to ensure Food Security in the 1990's? (policies, aid, ideology, etc.)

Clark Sorenson: Policies varied by the time. The 2002 measures seemed to point to the development of a socialist market economy similar to that of China or Vietnam, but after 2005 the regime backtracked and tried to resurrect the old public distribution system. This did not work, and markets continued to be the major source of food for most people. Since Kim Jong Un took over in 2011 there has been continuity in economic policy, and what I would call “tacit privatization and de-collectivization” with ostensible state enterprises actually run by private investors, money lords proliferating, and farm work teams reduced to 3-4 people (i.e. a family). Markets and trade with China fill out the rest. Ideology hasn't changed much, but practice has change.

Question #5: In your opinion, why does Food Security continue to be such a serious issue for North Korea?

Clark Sorenson: North Korea does not have enough agricultural potential to feed its population (because of mountains, cold, and lack of precipitation). Logically a country like North Korea would export industrial goods and trade for food, but their autarkic economic policy and lack of integration into the world (and US sanctions) all make trade very difficult for North Korea.

Question #6: The Wilson Center states that North Korea continues to state that only 225,000-250,000 died as the result of Famine in North Korea. However, Author Andrew Natsios suspects that the true numbers can range from 2.5-3.5 million. As a researcher yourself, what do you expect the realistic number of deaths to be?

Clark Sorenson: The most reliable figures are those of Haggard and Noland, Goodkind and West, and K. S. Park. All of these agree that the

number of deaths was between 600,000 and 880,000. Natsios apparently took the death rate of the worst counties and applied them to the whole country. His figures are not reliable.

Question #7: How has agriculture reform policy and food security changed since the 1990's?

Clark Sorenson: As a result of the famine, agricultural cooperatives have had to be more self-sufficient and resourceful. They can trade with each other, and managers can use their ingenuity to improve crops. The so-called "field responsibility system" (p'ojŏn tamdangje) has reduced the size of work teams. Some see this as tacit de-collectivization, but the evidence for this is fragmentary and the degree to which this system has been applied nationwide is not known. The discovery of North Korea fishery boats adrift in the East Asia suggests that there is a certain amount of entrepreneurial activity in fisheries. Basically, since the 1990s food has been marketized for most people.

Question #8: What are your thoughts on the Field Responsibility System (the latest agriculture reform policy under Kim Jong Un)? Do you think has it been successful thus far?

Clark Sorenson: The reports are fragmentary. Some see this as tacit de-collectivization, but I'm not convinced by the evidence so far. There does seem to be more flexibility in work assignment and cropping, however, and the size of work teams is smaller.

Question #9: What major differences do you see between leaders (Kim Il Sung, Kim Jong Il, and Kim Jong Un) in regard to food security in North Korea?

Clark Sorenson: Kim Il Sung left the economy to professionals, and during his time North Korea got lots of Soviet aid and trade, and so the economy was OK. Kim Jong Il was much more ideological and in my view is the one who blocked Chinese-style reform during his lifetime. Kim Jong Un has been more pragmatic than his father. He has not rejected any of the previous dogma, but has maintained continuity in the planning apparatus, and allowed pragmatic adaptation through semi-privatization and expansion of markets. He seems to think that improving the people's standard of living is an important goal, although the cadres and residents of P'yŏngyang seem to be the main beneficiaries of this policy.

Question #10: What are the major flaws in the agriculture sector in North Korea? What limits their yield productivity?

Clark Sorenson: Their agricultural planning is too rigid and emphasizes production of grain too much. Providing agricultural inputs (fertilizer) and fueling machinery and water pumps is a big problem. A less industrial model of agriculture might well benefit them now, with more emphasis on animal husbandry, winter cover crops, and planting trees on slopes to prevent erosion. A more open economy that allowed them to trade for those food products for which North Korea is not ecologically suitable would be good but is difficult so long as North Korea is a pariah state.

Question #11: As you know, food security and famine have continued to be an issue in North Korea since the 1990s. In May 2019, the UN (along with FAO and WFP) reported that more than 10 million North Korean's (nearly 40% of the population) are facing food shortages after a severe drought. In your opinion, do you think this could be an indicator that a severe famine is on the rise?

Clark Sorenson: It seems that chronic food shortages are simply a characteristic of the North Korean economy. I don't expect a famine as severe as the 1994-8 famine, but certainly one can expect that some areas of the country will experience very severe food shortages, while other areas will get along fine.

Question #12: What major changes need to be made to ensure food security and avoid repeating history (Famine) in North Korea?

Clark Sorenson: The reasons for chronic food shortages are both political, structural, and economic. North Korea cannot really address its economic malaise without robustly trading with the rest of the world. Yet North Korea cannot engage in robust trade while continuing nuclear and missile development, because UN sanctions will limit trade to smuggling, and perhaps unequal trade with China. Enhanced marketization (as seems to be happening) should improve the efficiency of the North Korean economy and thus help a little, but unless North Korea adopts a different defense posture it is hard to see much prospect for fundamental improvement in the North Korean economy.

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