

North Korea's Agricultural Reforms and Challenges in the wake of the July 1 Measures

■ Choi, Soo Young



KOREA INSTITUTE FOR NATIONAL UNIFICATION

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The analyses, comments and other opinions contained in this monograph are those of the author and do not necessarily represent the views of the Korea Institute for National Unification.

TABLE OF CONTENTS

I . Introduction	1
II . Reform Measures in North Korea's Agricultural Sector	5
1. Overview of the Agricultural Reform Measures •	5
2. Production: Improving the Inefficiencies of Cooperative Farming •	8
3. Allocation: Strengthening Farming Incentives •	12
4. Price • Circulation: rationalization of national prices, introduction of integrated market •	16
III . Changes in North Korea's Agricultural Sector under the Reform Measures	21
1. Changes in the Production Sector •	21
2. Changes in Distribution Methods •	27
3. Changes in Prices and Retailing •	32

**IV. The Goals and Challenges of North Korea's
Agricultural Reform**..... 39

- 1. Goals of North Korea's Agricultural Reform • 39
- 2. Challenges to Agricultural Reforms • 44

V. Conclusion..... 57

• Tables

Table II-1. Major Aspects of North Korea's Agricultural Reform Measures	7
Table II-2. Comparison of past and new sub-team management system	13
Table II-3. Increase in State Prices(per kilogram) for Agricultural Products Since the July 1 Measures	17
Table III-1. North Korea's Current Food Supply Statistics	22
Table III-2. Changes in North Korea's Agricultural Products Market Prices	33

I. Introduction

There are signs of change in North Korea, which for the past fifty years has maintained an economy that is based on a socialist planned economic system. After experiencing the ‘era of the March of Hardships’ in the 1990’s, North Korea has started to look toward a new direction that would allow it to solve its economic problems and develop its economy in the 21st Century. On July 1st, 2002, North Korea carried out its ‘July 1 Economic Management Improvement Measures’ (hereafter referred to as the July 1 Measures) that included goals such as ① raising prices of commodities (25 times) · wages (18 times) · exchange rates (70 times), ② expanding the autonomy of corporate management, ③ strengthening the incentive system for farmers, and ④ abolishing the low-price distribution system.

After the July 1 measures, North Korea carried out additional economic reforms such as opening up more areas and introducing market functions. In the second half of 2002, North Korea designated ‘the Shinuiju Special Administrative Region’

(September 2002), 'Kumgang Mountains Tourism Region' (October 2002), and 'Gaeseong Industrial Complex' (November 2002) as special regions. In March 2003, North Korea carried out reforms in its commercial sector, including the reorganization of the agricultural market into an integrated market, the transfer of the management rights of state-run businesses to institutions and corporations, and the legalization of service businesses conducted by private economic actors (restaurants, internet cafes and so on). From January 2004, North Korea introduced 'family unit farming' to the agricultural sector, and is experimenting with 'corporate reform' in the industrial sector.

Thanks to these economic reforms, North Korea has been able to achieve results, such as improving in its productivity in some of its labor intensive industries, such as agriculture and light industries, and increasing commerce. However, there are also growing signs of the pitfalls of capitalism, such as deepening inflation and a surge in exchange rates due to a lack of supplies, a rise in criminal activity including theft and larceny, and an increasing gap between the rich and the poor.

From North Korea's perspective, the new measures that are being introduced into the economic sector in the 21st Century are a dramatic shift in its culture of economic management. In the agricultural sector, it has reduced state responsibility in producing and distributing grain, and is encouraging the improvement of productivity by strengthening the autonomy of cooperative farms and expanding agricultural incentives. Nevertheless, North Korea is introducing these changes in the agricultural sector within the limits of its existing frame of collective farming.

The experiences of agricultural reform in other socialist countries like China and Vietnam have major implications for North Korea's reforms. Both countries had adhered to their socialist model of a planned economic system while gradually introducing reforms into

the agricultural sector. There is little possibility that North Korea will give up its socialist framework in order to reform its economy. In this aspect, precedent experiences of China and Vietnam may have valuable lessons for North Korea to emulate. These two countries have been able to develop their economies through agricultural reform.

This paper investigates the changes and challenges North Korea faces in its efforts to reform the agricultural sector in the wake of the July 1 measures. In Chapter 2, the paper discusses the agricultural reform measures that North Korea has introduced up until now. Chapter 3 deals with the changes in North Korea's agricultural sector that were brought about due to these reforms. Chapter 4 focuses on the directions and challenges that lay ahead for North Korea's agricultural reforms. A summary and a conclusion of the paper makes up Chapter 5.

II. Reform Measures in North Korea's Agricultural Sector

1. Overview of the Agricultural Reform Measures

In North Korea, there were no true reforms before the 2002 July 1 measures. In the agricultural sector, like other industries of the North Korean economy, there were no attempts that one could truly refer to as reforms. Despite these rigidities, there were signs of change in the late 1990's when North Korea tried to improve its agricultural productivity by providing incentives and allowing more autonomy to farmers.

Before the July 1 measures, the biggest change in the agricultural sector was the large-scale improvement of the sub-team management system first introduced in 1966. North Korea has adjusted the existing sub-team management system in order to provide real incentives to sub-teams, the smallest unit of farm organizations, and has carried out a new management system for the sub-teams since 1996. On January 1999, North Korea granted rights to cooperative farms to select the types of grain they wanted

to plant, so now farms are allowed to grow potatoes and herbs in addition to rice and maize in accordance to each farm's circumstances.

These reforms in the agricultural sector took off after the July 1 measures were implemented. The sub-team organizations were expanded to include family units, and in some areas farmland was distributed to sub-teams as a trial run. The performance assessment unit that is applied to the end of the year distribution of cooperative farms was switched from task groups to sub-teams. For grains excluding rice, the right to select the type of grain was expanded. Land was categorized into 3 groups (cooperative farm land, institution and corporation plots, private arable land) and differential levies for usage were imposed. In addition, limitations to the amount of land that could be cultivated privately rose from 30~50 pyeong to 400 pyeong. In some areas, there are trial runs involving a private cultivation system that allots land from cooperative farms to individuals and allows them to cultivate it privately.

Due to the July 1 measures, general prices and wages rose, with the purchasing price and supply price of grains rising dramatically. In response to these changes, the double grain price system of high-priced purchases and low-priced supplies that run through the state-run distribution network disappeared, and the provisions distribution system that provided food virtually free at one tenth of the purchasing price was abolished. Farms had delivered 70~80% of their produce to the government until now, but now they are required to deliver only 50~60% under the pretext of land levies and production costs, thereby increasing the amount of grain that could be disposed of privately.

A great deal of change is expected in the retailing sector as well. In accordance to the July 1 measures, the basic agricultural state-designated price was raised to a level that was closer to the

Table II-1. Major Aspects of North Korea's Agricultural Reform Measures

Category	Measures	Major aspects
grain production	Improving sub-team management system	- Expand family unit (2~5 households) sub-team organizations - In some regions, implement trials that distribute farm land to sub-teams
	Strengthen performance distribution	- Transfer performance assessment unit for cooperative farm end-of-year distribution from task groups (80~120) to sub-team (10~25)
	Expand right to select grain	- Selective expansion of cultivatable grains except rice
	Impose land usage levies (July 2002)	- Categorize land into 3 groups, cooperative farm land, plots owned by institutions and business, privately cultivated land (patch of field) and impose differential levies (lowest 53 jun~up to 60 jun)
	Expand privately cultivated land	- Expand the limit of privately cultivatable land from 30~50 pyeong to 400 pyeong (patch of field)
grain purchase	Trial of private farm system	- Trial run of private farm system that allocated land from cooperative farms to individuals and allows them to cultivate it, in some areas (Hweoryung, Moosan of Hambuk province)
	Abolish double grain price system (2002.7)	- Abolish high-priced purchases of grains and low-priced supplies - Dramatically increase purchasing price of rice (40won/kg) and supplied price (44won/kg)
grain distribution	Reduce amount delivered to government	- Increase of farms' rights to disposal: 70~80% of production was delivered to the government, but lowered to 50~60% under the pretext of land use levies and production costs
	Abolishment of provisions distribution system	- Provisions distribution system abolished, where food was supplied virtually freely (rice: 8jung/kg) at 1/10 of purchase price (rice: 82 jun/kg)
grain distribution	Reduce eligibility for provisions	- Provides standard amount (700g) to those involved in defense of regime, half of standard amount (300g) to civilians - Starting from March 2004 reduce institutions and corporations eligible for provisions, and strengthen self-reliance

Source: Kim, Young Yoon, Choi, Soo Young, Trends in North Korean Economic Reform (Seoul: Korea Institute for National Unification, March 2005), p. 47.

market price. North Korea has now acknowledged that the market is a part of the planned economy and as it has reorganized the farmers' market into an integrated market, the market trade of agricultural products through the market is increasing. Due to these reform measures in the agricultural sector, general agricultural production is showing signs of an increase but side effects such as inflation are also severe as well.

2. Production: Improving the Inefficiencies of Cooperative Farming

A. Easing Collectivism, Encouraging Responsible Farming

North Korea amended its 'Agriculture Laws' (June 2002) and is currently expanding the rights of farmers to manage land at their own discretion by reducing the scale of sub-teams and allowing cooperative farms to devise detailed production plans. In order to increase agricultural production, North Korea eliminated the task group preference system and converted to a system centered on sub-team management (Agricultural Laws Chapter 72). The goal is to relax collectivism by reducing the number of people in sub-teams, which is the basic product unit of cooperative farms (run a trial program that reduces the previous sub-teams consisting of 10~25 people to 7~8, and ultimately convert to a 4~5 person family unit system), and to encourage responsible farming. The right to select the grains to be cultivated by farms has also been expanded, allowing cooperative farms to choose the grain to cultivate, excluding rice.¹

¹ On September 2003, Director Kathi Zellweger of the Hong Kong brand of the international relief agency Caritas said that "some farms of North Korea are allowed to select grains to cultivate instead of growing only maize in accordance to government orders."

North Korea has reorganized some of its farmland system, by increasing private land (privately cultivatable land) and introducing a new land usage levy. It has raised the limit on privately cultivatable land from 30~50 pyeong (designated in 1958) to 400 pyeong (patch of field), and has allocated plots of land owned by institutions and companies to affiliated households. It has also allocated land to laborers to cultivate in order to utilize workers who are idle because of non-operating factories.

The expansion of privately cultivatable land is understood to be concentrated in the Hweoryung and Moosan areas in the Hamgyung Province. The increase of privately produced agricultural products due to the expansion of family gardens (patches of field) are flowing into farmers' markets, which are private distribution systems. There is the possibility that gardens being cultivated by individual family will expand in number, mostly in the inland mountain regions, but since the expansion of farming in family gardens would amount to acknowledging private farming, it would therefore be difficult to implement nationwide. Additionally, these family gardens will likely be absorbed into the public sector and tax will be imposed on the private produce.

Currently, North Korea has divided arable land into 3 categories, ① cooperative farming land, ② plots owned by institutions and companies, ③ privately cultivatable land, and imposes differential land usage levies (53 jun to 60 jun per pyeong). Land usage levies are 54 jun ~ 36 won per pyeong for category 1 land (farms), 88 jun ~ 60 won for category 2 land (plots owned by institutions and companies), and 12 won for category 3 land (privately cultivatable land).

B. Private Farming Trials

There are changes in production methods that aim to improve the

inefficiency of cooperative farming, and an example would be the trial run of a vegetable yard system (family unit farming) in some cooperative farms. On January 2004, North Korea decided on 'the implementation of the relaxation of the cooperative farming method and initiated a trial run of the family farming system'. Following the start of this policy, it selected some cooperative farms in Soo-an of Hwanghae Bukdo province and Hweoryung of Hamgyun Bukdo province to reorganize sub-teams into family units (2~5 households) and allocate land for the units to cultivate. On December 2004, King Yong Sul, the vice-minister of the Ministry of Commerce said that “cooperative farms have been given the right to reduce the size of sub-teams or choose to organize the vegetable yard system.”

A model example of private farming would be the Monggeum Pohyup Cooperative Farm in Ryongyungun in Hwanghae Namdo province, where the ‘fixed vegetable yards’ (private farmland) management system has been implemented. The farm was able to dramatically increase its fertilizer production and maize yields as well.² There are eyewitness reports that at the Monggeum Pohyup Cooperative Farm, 300 pyeongs of farmland were allocated to each member of the Women’s Alliance, and when the members were encouraged to compete with one another, the families cooperated to cultivate the land by bringing earth from other places and mixing it with the existing soil, and tried to increase productivity.

There are also reports that cooperative farms in North Korea are running trial programs that lease land to individuals who pay taxes to farm the land. ‘Good Friends’, an organization that provides aid to North Korea, reports that from the end of 2003 to the beginning of 2004, a trial private farming system where a

² North Korean Women’s monthly ‘Joseon Woman,’ cited from August 2002 edition, Yonhap News, September 25, 2002.

cooperative farm allocates cultivated land to individuals and receives levies in return that are categorized into first, second and third classes was being implemented.³ The organization also reported that the North Korean government had collected land levies in autumn of the previous year (2003) and provided 300 pyeongs of idle farmland per year for every worker who persistently reports to work starting from March of this year (2004).

President Kim Jin Gyung of Yeonbyun University of Science and Technology said that “since March 1st (2004) the North Korean government allowed individuals to lease land, but average North Koreans do not have the money to buy farming equipment or fertilizers, and are accustomed to the cooperative farming system, so their response to the changes was unenthusiastic.”⁴ In response to these statements a South Korean government official said that “I have not heard any news that there were specific policy implementations on March 1st,” but added that “there were some signs that seemed to imply that North Korean will carry out trial programs where cooperative farms will be partitioned and leased.”

³ According to Good Friends’ newsletter (www.goodfriends.or.kr), “a cooperative farm managed by a coal mine in Onsonggun Sanghwa has allocated 120 pyeongs of land per person, and there are statement that the ‘4 · 25 tobacco farm’ in Onsonggun has allocated land to units that consist of 3 to 4 households.” Meanwhile, Good Friends elaborated that “with the best quality land as a standard, 12 North Korean won is imposed on one pyeong,” and “the amount of land allocated to individuals are different for every cooperative farms.” But there are also reports that even if individuals are given land, many people are unable to till it because they have no cows, farming equipment, or fertilizer. Some North Korean refugees have testified that the private farming system which was limited to Hamgyun Bukdo province is now expanded implemented nationwide, but experts are more cautious. Yonhap News, December 5, 2004.

⁴ Claims by president Kim Jin Gyun of the Yeonbyun University of Science and Technology during the Seoul National University-Berlin Free University Unification Forum at Seoul National University, Yonhap News, March 15, 2004.

The official also said that “we have to wait and see whether this new program has been implemented nationwide or is just a trial.”⁵ The trial program of private farming, which is in actuality a type of ‘family farming system’, and leasing land to individuals by cooperative farms, similar to a ‘family contract system’, are two policies that show that in North Korea’s agricultural sector, experiments in capitalism, involving notions such as work for profit and principles of competition are being conducted. China had also implemented a ‘farming household contract system’ during its early stages of reforming and opening its economy, where it leased land and equipment to farmers to encourage them to work harder, and ultimately this led to increased agricultural production. Trials by cooperative farms to allow private farming and leasing of land to individuals may be a part of a larger policy framework since the July 1 measures to establish distribution according to achievement in the agricultural sector as well.

3. Allocation: Strengthening Farming Incentives

A. Expansion of the Sub-team Management System

North Korea had introduced a new and improved version of the sub-team management system in March 1996, and had run trials in select areas. The new sub-team management system changed its original organization that combined the elderly, adults, and youth (10 to 25 persons) into a family based unit (7 to 8 persons), and adjusted production plans that met lower and more realistic targets,

⁵ A government official said that “North Korea has plans to have cooperative farms lease land to individuals, but these individual farmers have trouble purchasing fertilizers and farming equipment and therefore hesitant about the new policies,” but predicted that “considering North Korea’s current changes, a Chinese-style reform is unavoidable.”

which allowed farmers to freely dispose of excess produce. The sub-team system was introduced in 1966, where sub-teams, the lowest farming unit under cooperative farms, received arable land, labor, and equipment to till the land. The sub-team received a portion of the balanced books according to its performance in November to December.

However, there are currently no reports or evidence that the new sub-team management system is being implemented across the country. In other words, one could presume that the new policy was introduced experimentally but had failed to establish itself among the populace. The most important reason North Korea adopted this new program was because it wanted to enhance its agricultural production by motivating the farmers. However, even under the new sub-team management system, the target production amount was still very high and the physical basis for agricultural production was weak and therefore nearly impossible for sub-teams to achieve excess production.

Table II-2. Comparison of past and new sub-team management system

	Past sub-team management system (1966~1995)	New sub-team management system (since 1996)
Sub-team constitution	- 10 to 25 persons, mixing the elderly, adult, and youth, considering the abilities and demands of the members of the farm	- 7 to 8 persons, mostly family and relatives
Production plans	- designate index for each farm annually according to national production targets	- Average of the average of yield of past 3 years, and average yield of 10 previous years
Disposal of excessive produce	- state procurement of excess produce (rice 60 jeon/kg, maize 50 jeon/kg)	- excess produce distributed in goods to farm members (sub-team) and disposed freely

Source: 『Joseon Shinbo』, July 16, 1997.

Meanwhile in Shineuiju and Onsung since early 2002, it was confirmed that sub-teams consisting of 3 to 4 families were allowed to farm and for teams that produced more than the target amount were allowed to distribute it freely, and new sub-teams consisting of 4 to 5 family members were on trial runs.⁶ It seems that North Korea has revived the sub-team management system, which was introduced since 1996 but had eventually become dysfunctional, and is now implemented nationwide. The extensive implementation of the sub-team management system since the July 1 measures is aimed at distributing agricultural produce in different amounts according to performance.

B. Expansion of the distribution principle based on performance

There is evidence that since the July 1 measures, North Korean cooperative farms have expanded the distribution principle based on performance to low level organizations, and have reduced providing outside labor in order to lower costs.⁷ 『Joseon Shinbo』 has reported that the socialist principle of 'distribution according to the amount of labor and amount earned' is established and during the end of year book balancing and distribution, the sub-team, which is the lowest organization unit, will also receive provisions according to production performance, and that there are significant differences among sub-teams in the provisions. Additionally, since the July 1 measures, the government has been striving to improve quality in order to raise prices of agricultural goods such as

⁶ Kwon Tae Jin, "North Korean agriculture and agricultural development strategy," 『The international society's agricultural cooperation with North Korea in response to North Korea's economic reform』 (Material from international seminar hosted by the Korea Rural Economic Institute, 2003. 3. 11), p. 34.

⁷ Citation from 『Joseon Shinbo』's sister publication, monthly 『Joguk』, 『Joseon Shinbo』, January 23, 2004.

vegetables, while categorizing those goods into different classes according to quality.

Even before the July 1 measures, after the deduction of tax and production costs from the total annual output, each cooperative farm distributed provisions to task groups according to performance, but had maintained an ‘average principle’ for sub-teams. Therefore, a year’s worth of provisions was given uniformly to the entire family for each member of a cooperative farm who filled in the required number of work days, whether the member was a diligent worker or not. However, as the distribution method changed, members have become more motivated to work and improve the quality of the produce, and it seems that farmers are trying very hard to reduce production costs such as land levies paid to the government, water, electricity, fertilizers, and labor in order to increase provisions.

As explained above, North Korea is encouraging farmers to compete with one another by changing the performance assessment unit in collective farms for end of the year distribution from task groups (80~120 persons) to sub-teams. According to the Jochongnyeon monthly publication ‘Joguk’, “before the economic reforms the provisions for sub-teams were equal because they were distributed by task groups, but provisions are distributed according to sub-team so that there are differences in the amount of provisions among sub-teams. In the case of Chungsan collective farm, in 2003, farmers received an average of 60,000 won per person, but the highest pay within a sub-team was 120,000 won.⁸

North Korea is also making efforts to reduce purchases by the government and motivate farmers to produce more in order to increase agricultural production. In the past, 70~80% of the produce was delivered to the government, but now only 50~60% is delivered

⁸ 『Joguk』, February 2004.

under the pretext of costs involving land use, irrigation, and electricity, and the rest is disposed of freely by the collective farm. Vice chairman Choi Young Ho of the Chungsan collective farm said that as the result of the 2003 book balancing and distribution, “land usage levies and production costs took up 50% of total income.”⁹

4. Price · Circulation: rationalization of national prices, introduction of integrated market

A. Elimination of the Double Price System of National Prices

North Korea rationalized the price of agricultural products by raising purchasing prices, which is the national price, and selling prices (distribution prices) in accordance with the July 1 measures. By rationalizing prices, North Korea has tried to decrease financial burdens by virtually eliminating the free provisions distribution system and the double price system for grains. In the past, North Korea had purchase grains at high prices (rice: 82 jeon/kg) and supplied them at low prices (8 jeon), but since July 2002 it has raised prices (44 won) by adding transportation expenses to the purchasing prices (40 won).

Under the July 1 measures, the purchase price of rice has risen almost 50 times per kilogram (82 jeon → 40 won), and supply prices for residents nearly 550 times (8 jeon → 44 won). The purchasing price for maize has risen 33 times from 60 jeon to 20 won per kilogram, and the selling price was raised 400 times from 6 jeon to 24 won. By dramatically raising purchase prices for grains, there is now no significant difference between the selling price (44 won) and purchasing price (40 won) for rice, and the gap

⁹ 『Joseon Shinbo』, January 23, 2004.

between the selling price (24 won) and purchasing price (20 won) for maize has narrowed a great deal as well. Before the July 1 measures, the purchasing price was generally 10 times larger than the selling price, but after the measures that gap has decreased by 10~20%.

Table II-3. Increase in State Prices (per kilogram) for Agricultural Products since the July 1 Measures

Category		before increase	after increase	increase rates
Rice	purchasing price	82jeon	40won	about 50 times
	selling price	8jeon	44won	550times
Maize	purchasing price	60jeon	20won	33times
	selling price	6jeon	24won	400times
Beans	selling price	8jeon	40won	500times
Pork	selling price	10won	110won	11times
Bean paste	selling price	20jeon	17won	85times
Soy sauce	selling price	20jeon	16won	80times

Source: Internal North Korean data, Joseon Labor Party Publishers, “Be knowledgeable about national measures that have revised general prices and living costs, and accelerate the building of a powerful nation with energy (July 2002),” 『KDI North Korean Economic Review』 Book 5 Number 1(January 2003), p. 41; excerpt from lecture by vice-minister Kim Yong Sul of the Ministry Commerce at a private seminar (September 2, 2002) during a visit to Japan, “Explaining North Korean economic policy,” 『KDI North Korean Economic Review』 Book 4 Number 10 (October 2002), p. 46; 『Joseon Shinbo』, July 26, 2002.

North Korea has attempted to motivate farmers by raising purchasing prices for agricultural products (especially grains) to a more realistic level. A dramatic increase in purchasing prices for agricultural products (including livestock goods) would lead to an increase in income for farmers, so the conditions have improved for expanding and improving farmers' living conditions and the agricultural sector in general. Because purchasing prices have risen for grains (rice, maize), farmers would avoid purchases,

and there would be fewer reasons for them to illegally trade in grains in the farmers' markets. Due to the great increase in selling prices, farming equipment which has been provided by the government up until now is no longer "free" but is supplied at a price that reflects prime costs.

At the same time, North Korea raised the distribution prices (state prices) for agricultural products that are traded in state stores, or public retailers, so that the new prices were closer to that of products being traded in the farmers' markets (market prices).¹⁰ The state price (selling price) for rice was raised from 8 jeon to 44 won per kilogram (550 times), 6 jeon to 24 won per kilogram for maize (400 times), 8 jeon to 40 won per kilogram for beans (500 times). There is no significant difference in prices for citizens who want to buy grains (rice, maize) from either the provisions distribution center or the farmers' market.¹¹ The price of pork (raw) was raised 11 times, from 10 won to 110 won per kilogram. Meanwhile, North Korea has allowed commodity prices to actively adjust in accordance to supply and demand conditions rather than fixing them. Some prices, such as those for fuel, electricity, raw materials and others that reflect product costs, and those that are directly related to the everyday lives of citizens such as rice and housing, did not seem to change and were apparently fixed to the original prices for some time after the July 1 measures. However, rice prices differed slightly from region to region ranging from 44 won to 46 won. There were confirmed reports at the end of

¹⁰ During the July 1 measures, rice prices were 80 won, maize 57.5 won, and pork 290 won.

¹¹ North Korea has said that despite the rise in rice prices, it will continue to provide provisions equally to all North Korean people by handing out distribution tickets, and maintain the provisions distribution system because it has guaranteed wages for laborers so that they could buy rice with higher prices.

2003 that rice provided as aid to North Korea was being sold at 46 won (paid distribution) and it seems that the state prices for these items are starting to change.

B. Introduction of Integrated Market

In the 1990's, as the international socialist market disappeared and the stagnation of its domestic economy continued to persist, North Korea's socialist commercial distribution sector steadily weakened as well. On the other hand, unofficial economic activity started to grow, led by the farmers' market, and private commerce began to emerge. Under these circumstances, the government's control over commercial distribution has rapidly decreased, and now that the private economic sector is dominating the national planned economy. As the role of the national distribution system has completely deteriorated, North Korean citizens now have no choice but to procure food and necessary supplies from private commercial distribution channels such as farmers's markets.

North Korea started to reorganize the former farmers' market into an integrated market for consumer goods since March 2003. Since the government abandoned the low-cost distribution system through the July 1 measures, North Korean citizens found themselves in situations where they had to procure some necessary consumers goods from the farmers' market, goods they had received from the government until then. The reorganization of the farmers' market into an integrated market may be seen as a result of a deepening dependence on the part of citizens on private commercial distribution systems since the July 1 measures.

In the newly formed integrated markets, almost all types of products are being traded, including agricultural products (grains) and manufactured goods which used to be banned in the farmers' markets. Almost all consumers goods such as basic foodstuffs

(grains) are distributed, and manufactured goods, which were once illegal in the farmers' markets, are now traded legally. These changes can be interpreted as signs that North Korea does not simply view the market as something to control, but is starting to acknowledge it as a part of the socialist commercial distribution sector. In the integrated market, all products with legal and illegal supply sources are being traded because the origins of smuggled goods and goods that were illegally issued out from the official (planned) sector are difficult to trace.

Currently in December 2003, it is estimated that around 300~350 integrated markets are established around North Korea. Estimates show that there is at least one farmers' market in 18 of the 19 administrative sectors in Pyeongyang, 1~2 markets for every gun, 3~5 per city, and 300~350 nationwide. Currently, there are 38 integrated markets in Pyeongyang alone, and the number could soon rise to 42.

An integrated market is managed by a state-run business, and another form of state company that pays taxes to the government according to profits. Individual stores in the integrated market conduct business while paying state taxes and market usage levies that range from 40~60 won per store. The Tongil Street Market (Pyeongyang's Nakrang sector) has 1,400 stores in a 6,000m² area, and there are 36 employees hired by the market management. In the old farmers' market system, only individual citizens could register and conduct business, but in the integrated markets state companies and cooperative groups can also participate so that 5% of the stores in the Tongil Street Market are assigned to factories and companies.

III. Changes in North Korea's Agricultural Sector under the Reform Measures

1. Changes in the Production Sector

A. Increases in Production due to Higher Motivation

The index that directly represents the problems of North Korea's agriculture sector is the lack of food, which was considered recently to be in the midst of a food crisis. This severe lack of food, which has persisted for the past 10 years, came to the attention of the international community in 1995. North Korea's grain (food) production dropped precipitously in 1995 and annual production fell below 3.5 million tons until 1997. In the period between 1995 to 1997, North Korea's grain production was 1.7 million tons below the minimum consumption amount, but despite emergency food aid from the international community, the food crisis reached its peak.¹²

¹² The minimum consumption amount is defined as the sum of the consumption for eating with 500 grams per person per day as the standard,

Table III-1. North Korea's Current Food Supply Statistics

(unit: thousand tons)

Category	1995/96	1997/98	1999/00	2001/02	2003/04	2005/06
Domestic production	3,451	3,489	4,222	3,946	4,252	4,540
Minimum Consumption	5,145	5,206	5,261	5,307	5,388	5,477
Shortage	1,694	1,717	1,039	1,361	1,135	937

note: 1. Domestic production: data released by the agency for promoting rural areas, 2. Minimum consumption: standard for eating 500g per person per day, standard for other types of consumption 30% of eating amount. 3. Population: National Statistical Office, 『Comparison of North and South Korean economies and societies』 (Collection: National Statistical Office, 2005).

After this period, North Korea's grain production recovered, and is steadily growing, albeit rather weakly.¹³ In 2003, after the July 1 measures, North Korea's food production grew by 8%, or 280,000 tons compared to the previous year, the highest amount in 9 years. The factors that contributed to this improvement may be favorable weather, the increase of fertilizer use provided by international aid, the reduction in damage by blight and insects, the improvement of irrigation systems in the fertile granaries due to the completion of the Gaechun-Taesung Lake waterway construction project, the increase in water meter operations for irrigation due to higher electrical power supplies, and increased operation rates for farming

and 30% of that amount categorized as other consumption amounts. 500 grams per person per day is the target amount for distribution that North Korea is continuing to try to achieve during periods of food shortages, and the 30% of other consumption amounts is the approximate number that was published by the FAO/WFP during the past 5 years.

¹³ Since the year 2000, grain production has steadily risen (2001 3.95 million tons → 2002 4.13 million tons → 2003 4.25 million tons → 2004 4.31 million tons → 2005 4.54 million tons) thanks to higher motivation and the improvement of land usage in the agricultural sector.

machinery due to the increase in fuel and parts supplies. Production for 2004 reached 4.25 million tons, an increase by 3% compared to the previous year. Conditions for farming were similar to the year before, but it is assumed that efforts to increase yields was successful due to the increased motivation of the farmers after the July 1 measures.¹⁴ In 2005, grain production exceeded 4.5 million tons for the first time in 10 years, reaching 4.54 million tons.

It is quite certain that the direct cause for recent increases in yields is that farmers are now utilizing more hardware (farming equipment such as fertilizers). However, it also seems that these factors have created a complex synergy effect because farmers have also played an important role, becoming more strongly motivated to increase yields after the July 1 measures and reforms.¹⁵ This is because the increase in yields did not depend solely on the expansion (increase) of positive external factors but also on additional incentives that motivated the farmers to work harder.

The North Korean government has also assessed that there was a connection between the increase of farm production achievements

¹⁴ FAO/WFP, Special Report: FAO/WFP grain and Food Supply Assessment Mission to the Democratic People's Republic of Korea, November 22, 2004.

¹⁵ "Even in cooperative farms such as Chungsanli, the amount of rice produced in a jeong has increased from 67 tons to 100 ---there were cases where farmers received up to 100,000 won in distribution income." "Rising enthusiasm for work, energizing the economy, changes after the July 1 measures," 『Joseon Shibo』, March 14, 2003; Vice-chairman Choi Young Ho of the Chungsan cooperative farm said that "members of the farm who had abandoned farming because of the unfavorable conditions are now thinking about effectively utilizing the land in accordance with the levies they pay for the land"(January 2004), and also mentioned that "vegetables are categorized according to quality, and items with too many flaws cannot be sold so farmers are striving to enhance quality as well" (February 2004).

and provisions, and the rise in rice purchasing prices following the July 1 measures.¹⁶ The purchasing prices for rice and maize rose 50 and 33 times respectively after the July 1 measures. General prices of commodities rose 25 times on average, and in comparison the purchasing prices for grains have risen at a much higher rate. Prices for agricultural input such as seeds, fertilizers, agricultural chemicals, fuel, and electricity have also risen, but because grain prices have been rationalized at a higher rate overall, economic incentives for farmers have increased dramatically. Due to the fact that purchasing prices for grain (rice, maize) have risen at such a high rate, farmers have been able to receive higher levels of income.¹⁷ Even under the collective farm system, where incentives were lacking, the rise in prices became a factor that encouraged farmers to work harder.

Since March 2003, the North Korean government transformed the farmers' markets into integrated markets and began to foster these

¹⁶ “In the past the purchasing price for rice was low, so farm members did not pay too much attention to work in the collective farms, but were more interested in side jobs like tilling vegetable fields. But thanks to the increase in purchasing prices, provisions have risen according to yields and effort points, ultimately leading to more motivated workers.” 『Joguk』, July 2003.

¹⁷ “Since July 2002 the decision to dramatically raise purchasing prices for rice and allowing more provisions to the farmers has brought about leading changes to agricultural production and distribution. As new purchasing prices were designated, motivation among farmers has risen as well. In the past the purchasing price for rice was low, therefore, farm workers did not pay too much attention to work in the collective farms but were more interested in side jobs like tilling vegetable fields. But thanks to the increase in purchasing prices the number of side jobs has risen according to yields and efforts points, ultimately leading to more motivated workers. In houses with many hard workers, hundreds of thousands of won in cash were distributed. A sense of responsibility that the farmers are the owners of farm life has also strengthened.” 『Joguk』, July 2003.

new markets, which has also been a motivating factor for farmers as well. As markets become more official and legitimate, there is now a higher possibility for grains to be sold through wider channels, which ultimately encourages the farmers to work even harder. This revolution in retailing is providing farmers with the opportunity to raise their income. Naturally, it is currently illegal for farmers to sell grains directly at the integrated markets. However, because of the nationwide food shortage, the introduction of the integrated market has expanded the sales routes for grains for farmers.

B. Farms (Farmers) Selfishness

After the July 1 measures, collective farms are establishing production plans that will maximize farm profits, albeit within certain limits. Due to the fact that prices have risen so dramatically, collective farms must now focus primarily on acquiring farming equipment in order to increase production, and the ability to acquire these resources through exchanging goods in the socialist market system is gaining importance.¹⁸ Farms are also considering the change in composition of products (crops) that reflect the changes

¹⁸ The socialist economic management improvement measures have fundamentally altered the citizens' way of thinking. Especially necessary farming resources such as water, fertilizers, and equipment are now traded at 'appropriate prices' rather than being distributed 'almost for free' as in the past. Due to the July 1 measures, land usage levies are imposed on members of collective farms and agricultural productivity has improved, while the 'average principle' during the distribution of settlement of accounts has disappeared. Now that farmers are paying levies for land usage, they are thinking of ways to use the land efficiently, unlike in the past where they had simply given up if the conditions were unfavorable. The enhancement of economic management is definitely contributing to the increase of agricultural production. 『Josun Shinbo』, January 2, 2004.

in relative prices. Thus, due to the reduction of compulsory purchasing amounts and the increase in the amount of produce that is independently disposed of, issues such as the exchange of goods between other farms and companies, acquisition of common funds, the increase of provisions for farm members (farmers), and other aspects concerning the disposal of produce have become more important.

National compulsory purchasing amounts have dropped, and the amount of produce that is independently disposed of by collective farms is increasing. In regards to this process, it seems that the North Korean government is wary and even critical of the fact that farmers on the collective farms are receiving more income.¹⁹ It has spoken out on the issue, arguing that one must be cautious against collective farms working only for their self-interest and only producing crops with high purchasing prices and other deviant farming behavior. On the subject of 'interest', the government emphasizes that “national and social interest must have priority above all else, and the demands of the autonomous units and workers must be met within those boundaries.” More specifically, it has also criticized farms, saying that “if farms put their own interests above national and social priorities and neglect urgent agricultural production in favor of crops with higher purchasing prices and other production activity, then this will have a tremendous impact on the struggle to build a strong, economically powerful nation and will also negatively effect the project to enhance the lives of the general populace.”

It is true that after the July 1 measures, provisions were distributed according to performance and some middle-class laborer families and farmers from collective farms had higher levels of income.

¹⁹ 『Economic Studies』 (March 2004) citation, 『Yonhap News』, November, July, 2004.

They are working and farming not to serve the national and social agenda set by the North Korean government, but to earn money in the interest of the organization that they belong to or the farms, their own families, and themselves. In response to these changes, the North Korean government is stressing the importance of striking an appropriate balance between the necessity of meeting the needs of the nation and society, and improving the lot of the individual, be that at a personal, family or and organizational level.

2. Changes in Distribution Methods

A. Increases in Relative Income of the Agricultural Sector (Farmers)

North Korea claims that despite the price adjustments and the rise in living costs due to the July 1 measures, there are no changes to the distribution system that guarantees the basic livelihood of the people. Above all, in order to maintain the national policy of taking responsibility for food supply and distribution, North Korea has decided to keep its provisions ticket system for rice.²⁰ In other words, the national price for rice was raised to reflect the trends of the farmers' markets, but kept the provisions distribution system intact at least in name.

North Korea's intentions in keeping the provisions distribution system may be inferred from the fact that it raised the purchasing price of rice almost to the level of market prices. Farmers will not suffer losses if they sell rice to the government at higher prices rather than the farmers' market. In other words, the July 1 measures have given the farmers a concrete and economic motivation to sell their rice to the government, and not merely because they are

²⁰ Park Soon Sung, 『North Korean Economy and unification of the Korean peninsula』 (Seoul: Pulbit, 2003), p. 132.

administratively obligated to do so. By rationalizing purchasing prices, North Korea has made it possible for the government to purchase grains and restore the provisions distribution system's function as well. It is quite clear that these are measures to maintain the 'distribution system' for major grains including rice and basic foodstuffs.²¹ One can assume that North Korea's intention is to try to control and maintain responsibility for matters pertaining to basic food supplies through the government.

North Korea's distribution system, especially the low price provisions distribution system, which has been in operation since first being implemented in 1946 serves all citizens (laborers and families), with the exception of members of collective farms. However, as North Korea carried out the July 1 measures, it explained that "anyone can buy and eat rice with the money that they have earned."²² This means that the government will maintain the provisions distribution system, but unlike in the past, it will only be responsible for the supply and the level and amount of purchases will be up to individuals. The fact that the national price (distribution price) has been rationalized (raised) to the level of market prices means that the role of the distribution system has actually been reduced.

It seems that the physical reduction of the distribution system after the July 1 measures did not burden household finances too heavily. Since the 1990's, North Korea's distribution system has not functioned properly because of a lack of basic supplies, and citizens procured food from farmers' markets when faced with shortages. On the contrary, the raising of national prices (distribution prices) to market prices became burdensome for families. North Korea has

²¹ 『Josun Shinbo』, January 22, 2003.

²² Josun Labor Party Publishing, "Be knowledgeable about the national policies that have revised general prices and living costs, and bring forward the building of a powerful nation (July 2002)," p. 43.

made the decision to keep the distribution system at least in name, but in reality it has diminished the role of the distribution system by rationalizing national prices.

The reason why North Korea reduced the distribution system by virtually giving up its low cost supply policy, is because of its reconsideration of the negative effects wrought by this system. Because the government was responsible financially for basic clothing, food, and housing, workers only had to work one day in order to procure a month's worth of food. As a result, workers did not feel the need to work hard and housewives chose to stay at home rather than work. Currently, as the government has failed to provide sufficient food for the populace, many citizens have given up their jobs and started businesses.

The huge burden placed on household finances because of the reduction of the distribution system is apparent in official North Korean documents. They admit that “in the past, the cost of food took up only 3.5% of living costs for laborers and office workers” and “in the future the government will charge extra in addition to the food prices it pays to collective farms and sell food within the limits of the current food supply standard, and this will cause food to take up nearly 50% of real living costs for workers.”²³ The reduction of the distribution system has lowered the amount of provisions distributed by the government and increased the burden on individual North Koreans.

Farmers' income has risen at a higher rate than workers in other fields. After the July 1 measures, unskilled farmers receive 1,320~1,570 won, farmers with basic skills 1,830~2,080 won, and farmers with a high level of skills 2,340~2,480 won. Highly skilled farmers receive at least 2,300 won, making them higher wage earners than average office workers. Farmers did not benefit from

²³ *ibid*, p. 43.

policies that kept grain prices low, but their circumstances improved after the July 1 measures. However, income for members of collective farms, where money is earned by selling annual produce to the government, ranges widely from 500 to 4,000 won.²⁴

B. Gaps in Income among Farms and Farmers

North Korea is reconsidering its own past policies, rationalizing this by arguing that the amount of labor and capability were not considered when paying income for laborers and office workers, and that income was paid equally to all because the company had accomplished more than the original targets. The North Korean authorities also point out that in the case of collective farms, farmers were provided with food at a uniform amount for the themselves and their families if they just met the necessary operating days, and whether the farmers were hard workers or not did not matter. The government is now stressing the need to overcome these past policies and eliminate the ‘average principle.’ The goal of the July 1 measures is clearly expressed in the statement, “the government will follow a proper socialist distribution system and revised living expenses so that each worker will earn as much effort he has put in.”²⁵ In other words, the income distribution system was reorganized to inspire motivation to work and enhance productivity.

This reorganization of the distribution system was implemented primarily through the differential increase in living expenses. Under the principle of a preference for producers, laborers in the

²⁴ FAO/WFP, Special Report: FAO/WFP grain and Food Supply Assessment Mission to the Democratic People’s Republic of Korea.

²⁵ Josun Labor Party Publishing, “Be knowledgeable about the national policies that have revised general prices and living costs, and bring forward the building of a powerful nation (July 2002),” p. 42.

non-production sector saw their living expenses rise 17 times, but for laborers in the labor intensive production sector, the costs rose from 20 to 25 times. Due to these rises, the basic living cost gap between different types of jobs tripled at most. Although North Korea is trying to “raise living expenses in order to raise the standard of living for the general population” in keeping with the overall rise in prices, the change in the income distribution system was expected, as a result of differential rises in living costs. However, the more important thing is that even greater changes occurred within the income distribution system because of the introduction of a piece rate system, such as the accumulated labor wage system. The North Korean government boasts that thanks to the new system, some coal miners are receiving wages that are several times higher than the average 6,000 won. The socialist principle of distribution where workers earn as much as their efforts is now established in collective farms as well, and during book balancing and distribution at the end of the year sub-teams, the smallest work unit, receive provisions based on production performance, thereby causing gaps in provisions among different sub-teams. On some collective farms, some members of sub-teams received cash at rates 2 to 4 times higher than the average monthly wage of 2,300 won during the 2003 end of year provisions of closing accounts.

There are also reports that some members of collective farms are receiving high levels of income. ‘Josun Shinbo’ reported that in the case of Chungsan collective farm in Gangsugoo region of Nampo City last year(2003), sub-team members received 60,000 won (North Korean won) on average at the distribution of closing accounts, and the highest distribution wage was 120,000 won.²⁶ In addition, in the past, 50% of total income was paid to the

²⁶ 『Josun Shinbo』, January 23, 2004.

government as land usage levies and production costs, but last year only university students were used as additional labor while middle schoolers were not allowed to work. The resulting shortage of labor was alleviated by task groups within the farms and was able to significantly reduce labor costs. In Anakgun of Hwanghae Namdo province, there were even family unit farm members who received more than 300,000 won in cash.²⁷

It seems that North Korea has been somewhat successful in meeting its goal of eliminating the principle of averages by raising living expenses differentially and introducing the piece rate system based on performance. The purpose of getting rid of the average principle is to encourage laborers to work harder by providing differential incomes. North Korea was able to enhance productivity in the short term by raising nominal wages and allowing differential wages among individuals through the July 1 measures. However, in order to sustain these improvements, both nominal and real incomes must move in the same direction. Motivation to work will be stronger and productivity will improve only if the rise in nominal income leads to increases in real income. In this regard, although the July 1 measures can lead to the elimination of the principle of average, whether there are positive developments in the income distribution system will depend on the changes in real income.

3. Changes in Prices and Retailing

A. Continuous Rises in Agricultural Products Prices

After the July 1 measures where general prices and living expenses were raised, market prices in North Korea can be seen to be steadily rising as well. Especially since 2003, the rise in market prices

²⁷ 『Josun Shinbo』, April 22, 2003.

continues to accelerate, and the farmers' market prices in February 2003 were 2.5 times higher than in February 2002. The price of rice rose 2.8 times from 47 won to 130~150 won per kilogram, maize 2.3 times from 32 won to 75~85 won per kilogram, and pork 2.6 times from 139 won to 360~380 won per kilogram.

Table III-2. Changes in North Korea's Agricultural Products Market Prices

(unit: North Korean won)

	Unit	2002.2	2002.7	2003.2	2003.7	2004.4	2005.10	2005.12
Rice	kg	47	80	130~150	156	350	705	850
Maize	kg	32	57.5	75~85	116	150	222	286
Beans	kg	44	-	180~190	160	300	376	464
Wheat	kg	41	-	-	176	325	750	775
Tofu	piece	13	-	-	56	73	136	188
Pork	kg	139	290	360~380	539	1,121	2,320	2,463
Egg	piece	11	15	22~25	46	59	189	208
Cabbage	kg	18	-	-	75	80	93	206
Radish	kg	17	-	-	34	40	58	170
Potato	kg	14	-	-	93	68	113	138
Apple	piece	31	-	-	94	107	170	250
Pepper paste	bag	123	-	-	187	165	378	410
Soy sauce	bottle	21	-	-	62	80	240	250
Bean paste	bag	50	-	-	98	155	206	208

Source: Internal data from the Ministry of Unification; Nam Sung Wook, "Study of changes in production and consumption behavior of citizens in North Korea after increased income and prices in 2002," 『Unification issues research』, Book 15 Number 2(Second half of 2003), pp. 110, 112.

North Koreans who are highly dependent on private commercial retailing networks like farmers' markets (integrated markets) are very sensitive to fluctuations in market prices, rather than national prices. This is because the rise in market prices leads directly to the lowering of real income and purchasing power. Therefore, prices in integrated markets are basically decided by supply and demand, but on the other hand the government designates price caps for overall prices as well.

According to the 'integrated market systematization measures' of December 2003, North Korea has decided to "designate price caps for products that as important indices like rice and oil, and review and calculate the 'appropriate price' every ten days based on demand and supply." In March 2004 the price cap for rice announced for the Unification Street market was 240 won, but was actually traded at 250 won so even the major indices products are being traded at prices higher than the designated caps.²⁸ There are currently only about 19 items with price caps in the Pyeongyang Unification Street market.

Meanwhile, North Korea has managed wholesale groups within the integrated markets and introduced a price competition system. It seems that the North Korean government implemented this system to prevent prices from rising above the caps at the integrated markets. Some believe that this policy is designed to fight inflation by encouraging competition rather than administrative regulation. However, despite these measures it is quite difficult to maintain the price caps when the supply of products is rather limited, and in reality goods are traded at market prices at the integrated

²⁸ In 2004 grain prices in the Unification Street market rose 30~60% compared to 2003, with price caps for rice (polished) reaching 240 won, a 60% increase, while maize rose by 30%, and pork was traded at 500~750 won. It is not clear whether the 500 won that is reported as current (August) rice prices is the market price or the price cap.

markets.

It has been reported that market prices have been steadily growing after 2004. A look at the changes in market prices for rice, which also acts as the standard, one can at a glance see evidence of the hyper-inflation that has continued in North Korea since the July 1 measures.²⁹ Market prices for rice rose to 350 won in April 2004, and in December 2005 it rose dramatically to 850 won. Even considering seasonal factors, market prices more than doubled during those years. Compared to the period during the implementation of the July 1 measures, rice prices rose almost 10 times in three and a half years.³⁰

Even while North Korea was implementing the July 1 measures, it thought that “without guaranteeing early prospects for resources for up to several months, it would be difficult to expect retailing at stable prices” and tried to acquire consumption resources and invest in the national commercial network. However, despite the calculations and preparations of the North Korean government, the shortage of food and basic living goods did not improve at all. As a result, the increase in money supply due to the rationalization of prices and rising living expenses led to the rise in overall prices of goods. In trying to redeem the money supply, North Korea issued 'People's Livings Bonds' in March 2003, but it was too late to curb

²⁹ According to data provided by a North Korean refugee group, prices have risen to an almost unbearable level in July 2004 at the Jangmadang in the Chungjin region, with rice selling at 900 won per kilogram, cooking oil 2,000 won per kilogram, pork 2,700 won per kilogram, eggs 100 won per egg, and sugar 900 won per kilogram.

³⁰ Since the July 1 measures, North Korea's hyper-inflation can be seen in the surge in the market exchange rate for the North Korean 'won' to the dollar(won/\$). The market exchange rate for the North Korean 'won' rose at a similar pace to the market price of rice, to 220 won (February 2002), 550 won (December 2002), 670 won (February 2003), 1000 won (December 2003) 2,000 won (August 2004).

inflation.

Because of the surge in the market prices of agricultural products, the gap between market prices and purchasing prices, which was rationalized close to market prices during the July 1 measures, had now widened significantly. The gap between the purchasing prices and market prices caused farmers to avoid selling to the government and encouraged them to sell their produce on the open market, allowing further opportunities to raise their income. Consequently, inflation is causing the contraction of the national retailing network and the expansion of the commercial retailing network because agricultural produce that should be supplied to the national network is diverted to the market.

B. The expansion of the commercial retailing network

Through the July 1 measures, North Korea tried to reduce the role of the farmers' market and established the socialist distribution system through the national retailing network. The role of the national retailing system was strengthened temporarily through measures such as raising purchasing prices. However, after the July 1 measures the role of the government's provision distribution system was reduced, and urban consumers are now buying 50% of their food from the markets. As the ability of the government to distribute provisions diminishes, the farmers' market is becoming more active.

As the role of the market expanded, the North Korean government reorganized the farmers' market into an integrated market in the spring of 2003, and allowed the trade of all agricultural products including foodstuffs and manufactured goods. Decentralization of price designation and more individual freedom to dispose of excess yields also contributed to the active growth of the market. After the July 1 measures, North Korea transferred some of its right to

designate prices to regional governments or companies. In the beginning, the government purchased excess produce at national purchasing prices, but as the freedom to dispose of the excess yields was transferred to the sub-teams, trade in markets has been rising rapidly.

Through the July 1 measures, the distribution prices for agricultural products were raised to the level of market prices, and living costs have also increased. The price of rice was designated as the index, and in order to curb the abrupt rise in prices for agricultural products in the (integrated) markets, a price cap system was introduced. However, because supply could not satisfy demand, the gap between market prices and national prices kept widening, and in the integrated markets prices exceeded the nationally designated caps. In the case of rice, the official selling price in the national retailing network is 46 won per kilogram, but because of the lack of supplies the prices rose from 80 won around the time of the July 1 measures of 2002 to about 850 won in December 2005, a ten-fold increase. Because of the continuing rise of market prices, farmers are expressing a strong desire to sell their produce through the market.

As the supply of agricultural products through the national retailing system decreases, and the differential distribution of wages (living costs) based on performance becomes widespread, the national retailing system has strengthened its purchasing business function and has continued to expand not only its distributive role but also to purchase agricultural products independently as a commercial retailer. However, despite the expanded roles, the national retailing system is not in a position to compete with the market in terms of supply and quality of goods (agricultural products).

Ultimately, after the July 1 measures, the recent changes in North Korea's distribution system of agricultural products caused the reduction of the role of the official retailing network and the

expansion of the commercial retailing network, the integrated market. Because of the undeniable reality of the large gap between the state-run stores and integrated markets, it would be very difficult for the North Korean government to establish a socialist distribution system based on the national retailing network. If it tries to abruptly weaken the functions of the farmers' markets and integrated markets when the national retailing network lacks the ability to properly supply goods, confusion will be inevitable.

IV. The Goals and Challenges of North Korea's Agricultural Reform

1. Goals of North Korea's Agricultural Reform

A. Conditions for the Agricultural Reform

Decentralization, decollectivization, marketization, and privatization in a socialist system are all basic standards of assessment of the level of reform. The reform of the agricultural sector normally consists of the strengthening of the rights and autonomy of collective aspects, switching to a system where farming families are responsible for production and farmers are allowed to use important means of production, the active use of production factors and distribution of agricultural products and the designation of prices based on supply and demand, bestowing to individuals the right to freely dispose of produce, and acknowledging the right to own important means of production.³¹

³¹ In the agricultural sector, ① decentralization involves maintaining current

North Korea has not yet implemented a full-scale reform policy, but around the time of the July 1 measures, some reformative measures have been implemented in the agricultural sector. To raise motivation among farmers, the government enforced the new sub-team management system nationwide, and strengthened the principle of distribution based on performance. While raising overall prices and wages, purchasing prices for grains were raised significantly and rationalized in order to stimulate agricultural production. Additionally, the farmers' market was reorganized into the integrated market, and farmers were given the opportunity to increase income by allowing trade of agricultural goods through the market system.

Judging by these changes alone, it would seem that decentralization and some marketization has progressed in North Korea. However, this does not mean that there is a possibility that the system and organization of North Korea's agricultural sector would truly be reformed. Up until this point in time, there have been no attempts at reform of systems or organizations that have the potential to cause political conflict with the political regime within North Korea. On the contrary, North Korea strengthened its agricultural

ownership relations while expanding the responsibility management system and rights to decide of collective farms, national farms, and agricultural farms, ② decollectivization involves the reduction of the size of sub-teams within the collective farms and upgrade the farmers' household production responsibility system and transform the responsibility management system as well as expand the rights to use important means of production (lease, trade, mortgage), in order to allow family-oriented farming, ③ marketization involves discouraging the uniform distribution of production factors and the national purchase of agricultural goods while encouraging the distribution of goods in the factors and goods markets so that production factors and agricultural products are traded in markets, ultimately allowing markets to decide the prices, ④ privatization involves expanding the right to freely dispose of produce by the individual and converting the rights to use important means of production to ownership rights.

guidance system and emphasized the corporate management system, presenting a more centralized management style. Up until now, the fundamental aspect of the attempts and reform and improvement by North Korea were about pragmatism and enhancing the efficiency of the planned economy.

However, unlike the intentions of the North Korean government the diverse reformative measures caused irreversible changes in the agricultural sector. The farmers are now exposed to market trading, and are demanding more decentralization that allows production flexibility. Because of continuing inflation after the July 1 measures, farmers' demands for the rights to sell more freely in the market has surged. As a result, there has been a partial relaxing of the collective system in the agricultural sector.

After the July 1 measures, it seems that more significant economic changes are quietly occurring in North Korea. The government no longer sees the market as an object of control, but is now acknowledging that it is a part of the socialist distribution system, and a positive attitude toward the market is spreading. The flexibility of price decisions within the limits set by the state is a part of this change. Autonomous management among factories and companies has expanded, and profit is the central motivation. These internal changes will become the driving force that will incite full-scale reforms in the North Korean agricultural sector in the future.

The lessons from the Chinese and Vietnamese experience is that reforms conducted in phases is much more appropriate than radical ones. These nations have implemented reforms on land ownership and management first and then moved toward market and distribution reforms during agricultural reforms, so as to minimize the impact and confusion in the economy. By reorganizing the land ownership relations and agricultural management system, enhancing agricultural production came first, and prices for

agricultural products and income for farmers came after those measures. This implies that the goal of agricultural reform is not limited to improving agricultural production but involves solving general problems concerning agriculture as well.

Although agriculture is the sector with the strongest socialist colors, there is a possibility that North Korea will implement full-scale agricultural reforms in order to solve the urgent food shortage problems. Considering the economic situation of North Korea, just reorganizing the system of the agricultural sector would bring about significant increases in production and stabilize the lives of the general population by easing the food shortages. The important lesson from countries that have experienced regime change is that it is vital to overcome inflation in the beginning of economic reforms.

B. Basic Goals of the Agricultural Reform

In the case of China, agricultural reform began with aspects that were relatively easy to change and gradually moved toward the more difficult areas. First, it began with land system reforms and progressed toward improving prices and distribution for agricultural products. Radical reforms would lead to the destruction of agricultural production and cause confusion in the distribution markets, ultimately creating even greater problems. At the same time as reforming land systems, China improved purchasing prices and encouraged greater productivity for farmers, and through these measures it was able to increase their income.

In Vietnam, a bidding production contract system was introduced, and the production contract system for agricultural products was implemented on a wide spread basis. Long-term use of land was allowed, as well as exercising various rights concerning land usage. The production and distribution of agricultural products was greatly

liberalized, and the the irrational ‘agreed price’ was eliminated, and instead allowed market mechanisms to decide prices. Through these measures, Vietnam was able to successfully implement reforms in the agricultural sector.

As could be observed in the process of agricultural reform in socialist nations that have tried to maintain their regimes, reforms must begin with the modifying of production organizations. It must first categorize the lowest level production unit into individual farmhouse units, and allow distribution among those units. This system has to allow farming households to be ultimately responsible for the production and selling of agricultural products, which is the farming households production contract system. Reforms must start from the basics and expand toward the larger framework. In terms of price and distribution, reform is best implemented by progressing from the achievements in the agricultural production sector.

In order to truly reform agriculture, North Korea must also introduce policies similar to China and Vietnam, where land remains state-owned, but the right to use the land must be separated from ownership. Currently North Korea allows the free disposal of excess produce to sub-teams, but it is rather ineffective and is in need of large-scale reforms to improve incentives. Trade through the integrated market is expanding but prices are still decided within limits set by the government.

North Korea’s agricultural reform must be conducted gradually in two large steps, first changes within the economic regime, and second fundamental changes of the economic regime. In the first step, economic liberalization and market function was to be expanded within the agricultural sector while maintaining the current socialist planned economy system. The autonomy of the collective farms must be expanded to change the goal of management to a profit-seeking structure, and economic incentives

for farmers must be increased to make sure that distribution according to labor is established. The government must allow more individual ownership of property and private farming activity, and guarantee farmers' rights to use land while maintaining the state-owned status of land in general. It must allow flexibility of prices for agricultural products that are controlled by market prices while keeping the prices within a state-designated range. The government's supply system and market trading should co-exist, but at the same time supply should take place through the national distribution network must be reduced.

In the second phase involving changes in the economy system and regime, various rights on land usage must be allowed, and private property ownership and the range of economic activity for farmers must be broadened. The distribution system must be eliminated, and instead a market-centered distribution system needs to be established and gradually change the state monopoly supply system into a competitive system. Therefore, in the second phase, a singular price system must be established where prices for agricultural products are decided by the principle of supply and demand within the market.

2. Challenges to Agricultural Reforms

A. Reforms in Ownership Forms: Separating Land Ownership and the Right to Use Land

The fundamental problems of North Korean agriculture lie in the state and collective ownership structure of land following the collectivization of agriculture. Due to this system, there are a lack of incentives and productivity in the agricultural sector and long-term production levels remain rather low. Other problems include a lack of investment in the agricultural sector and the

down-sides of uniform agricultural policies such as Juche agriculture. In North Korea, conducting agricultural reforms virtually means reorganizing the collective farm system.

In order to motivate farmers' desire for higher levels of production, a fundamental reform in ownership must be implemented. This is because the ownership of the means of production is the most important demand for farmers, and also the most effective incentive for higher motivation. However, it is unlikely that North Korea will immediately grant the demands of farmers and privatize the core means of production such as land. In 1998, North Korea expanded the boundaries of private ownership through its revision of the 'Socialist Constitution'. However, the state and collective ownership of land has remained steadfast on this issue for the sake of completing socialism.

The experiences and results of the reforms of China and Vietnam have great significance for North Korea. The most important lesson is that the two countries were successful in their agricultural reforms through a gradual process rather than a radical one. By maintaining the socialist regime they could minimize conflict within the system that could have been wrought by the reforms. Although China and Vietnam could not achieve complete private ownership, they were able to accomplish privatization in terms of substance.

Since real privatization would be difficult within North Korea's socialist regime, a more realistic method would be to move away from the collective farm system of the past and move towards a family contract system (private farming). In order to achieve this, North Korea must allocate the land owned by collective farms to individual farming households and guarantee long-term usage of land, and then change land ownership and rights to use land. After that, various rights concerning land usage (buying and selling, transfer, inheritance etc.) should be allowed and the range of usage

rights be expanded. Through these measures, further solutions of diversifying ownership based on the current collective ownership system can be devised.

More specifically, the means of production necessary for farms that the collective farms own, such as arable land, livestock, and farming equipment must be leased or transferred to individuals. Ownership of land (arable land) remains with the collective farms, but individual farming households should be given long-term usage rights and gradually allow the right to transfer, inherit and mortgage the land. Collective farms would also maintain ownership of large-scale farming equipment, important means of transportation and storage facilities, but guarantee individuals the right to lease those facilities. Additionally, individuals must be given the right to own mid to small sized equipment.

B. Introducing and Expanding the Farming Family Production Responsibility System (Family Farms)

By collectivizing agricultural activity and abolishing private farming, North Korea caused the deterioration of the qualities of proactiveness and creativity of its farmers. Similar phenomena could be observed in the People's public company of China and the joint ventures of Vietnam. North Korea introduced the sub-team management system in 1966 in order to motivate farmers but there were no noticeable developments. The implementation of a new sub-team management system in 1996 was also ineffective in truly motivating farmers to work harder. To enhance incentives for farmers, it is important to change and improve the existing sub-team management system within the collective farm system.

The first step should be to reduce the size of the sub-groups and gradually change individual farming families into the smallest unit while introducing a system of production responsibility. The next

step would be to either implement the production contract system for each farming house unit, or expand the range of production activity for social cooperation groups. However, ultimately, the major goal would be to establish management bodies for individual farming house units. It would be difficult to immediately acquire ownership of major means of production for individual households during the process of introducing and expanding the farming house production responsibility system. First, the households should be granted usage rights, and then gradually lengthen the duration of those usage rights. If using the means of production, especially the long-term usage of land becomes possible, then the next step would be to grant various rights related to usage rights (leasing, settlement, inheritance, etc.)

In order to motivate farmers within the collective farm system, it is important to grant autonomy to farming homes within the collective farms to manage farming affairs, and clarify the relationship between the material profit and management activity of the farming homes. North Korea should introduce a system of production responsibility within the agriculture sector, and develop the system of management contracts. The most appropriate structure for such a system of production responsibility in the agricultural sector would be the family farming system (family contract of family lease system), where individual farming households are responsible for farming activity. The family farming system is one that moves away from the structure where collective farms under lie units were given management rights, and towards one where family units directly manage farms. The family farm system allocates land that belongs to collective farms to individual farming families, and allows the family units to keep the profits that remain after subtracting national taxes and provisions for the collective farm from total revenue.

In the process of adjusting production organizations (introducing

and expanding production responsibility systems), farming families must be granted the right to use land, although ownership remains with the collective farms. To minimize friction that may result from the distribution of land usage rights, the standard of land distribution must be clear and reasonable. The factors that constitute the standard could include manpower, population, or a combination of manpower and population. It would be most appropriate here to base the allocation primarily on population (or manpower per family) but also respect the decisions of the village units. Meanwhile, when allocating land where the quality of the soil is different, the most reasonable method would be to adjust the standard according to quality levels.³²

By allocating the right to use land, the family farming system can encourage the growth of private farming and stimulate production. However, because it is a system that uniformly distributes small amounts of land to individual households, problems related to small scale management would reveal themselves in the long run. Generally, small scale management systems are disadvantageous in that it is difficult to achieve economies of scale in terms of rational divisions, machine cultivation, irrigation, pest control, and introducing superior breeds, and it also prevents the development of social divisions of labor and production. These problems can be solved by gradually concentrating land usage rights in the hands of capable farming households through greater flexibility of those

³² There are many possibilities, such as ignoring the quality of soil and equally divide the land and allocating it by drawing lots, estimating soil quality and selecting a standard to divide and the land allowing individuals to select, or allocating land according to prices and compensate through hard cash. In the case of China, among 253 towns 76.5% have followed this principle. Cho Myung Chul, Hong Eui Pyo, 『Early reform and opening policies of China and Vietnam and North Korea's reform objectives』, p. 161; Park Jung Dong, “Case studies of socialist agricultural reforms,” p. 296.

rights, such as leasing them, and ultimately allowing the establishment of corporate farms.

Under this family farming system, the selection of crops and farming methods, the disposal of surplus agricultural products must be up to the farming households to decide, and the government should balance these new rights with technical and material support. Collective corporations, private, corporations, and personal businesses must be allowed so that measures to increase employment and income among agricultural manpower can be devised. In order to prevent the sudden influx of people into urban areas after such reforms, a system where the land usage rights are recalled to the government for families that move from the countryside to the cities. Reforms concerning prices and distribution, such as raising overall prices for agricultural products along with purchasing costs, and lowering prices for agricultural production input, must also be implemented simultaneously.

C. Raising Purchasing Prices

Currently in North Korea, there are virtually no differences between national prices of agricultural products that are supplied to citizens through the national distribution channels, and the purchasing prices of products bought from farmers. This is because while maintaining the distribution system, the government basically fixed the two prices at similar levels when they raised purchasing and selling prices (national prices) to reduce financial burdens during the July 1 measures. At that time, national prices were fixed at levels that mostly reflected market prices.

At the time of the July 1 measures, distribution prices (national prices) of North Korea nearly exceeded those of the (farmers') market prices. Therefore, the tendency for farmers to 'avoid planned allocation' that was caused by the double structure of prices for

agricultural products was theoretically impossible. However, it is quite common for surplus demand to occur in a socialist economy, and similarly because of the chronic shortage of resources, the gap between distribution prices (national prices) and market prices, a gap which had reduced during the July 1 measures, started to widen again.

Since 2002, the purchasing price for North Korean agricultural products remained fixed and unchanging. However, for rice, the selling price (national price) seems to have risen very slightly, while national prices (purchasing price and distribution price) are basically fixed. However, the market prices for major grains (rice, maize) have risen ten-fold in 3 years, from the July 1 measures until 2005.

Considering the food situation (demand and supply structure) in North Korea, it is a matter of urgency to raise purchasing prices to stimulate production. Under the double price system of national prices and market prices, farmers can raise income by reducing national purchases and selling produce in (farmers') markets. The wider the gap between selling prices and market prices, the stronger the tendency to avoid national purchases. Therefore, for the government to acquire national supplies under the current distribution system, it is important to provide incentives to farmers. That is, purchasing prices must be raised to close the gap market prices, and encourage farmers to participate in the government-led official distribution system.

The essence of the pricing policy, which involves providing incentives to farmers under the double price system, lies in pushing purchasing prices closer to market prices by raising purchasing prices. In order to raise purchasing prices, financial support from the government is necessary. During the reforms in China, purchasing prices were higher than distribution prices, but lower than potential equilibrium prices. Financial burdens due to price

support existed, but overcoming the supply shortage situation by raising purchasing prices was a higher priority. In addition, the financial situation of China during these reforms was somewhat positive, making it possible for China to stimulate production through its price policies.

North Korea had escaped serious economic crisis in the 1990's, but its financial structure was still very vulnerable. One of the main reasons why the July 1 measures were implemented was to reduce the financial burden of the government. The vulnerability of North Korea's financial aspects will be obstacles to implementing price policies (raising purchasing prices).

Meanwhile, there are also ways to raise purchasing prices which place immediate financial burdens on the government. If distribution prices are raised simultaneously, then additional expenditure would not be necessary. However, raising distribution prices for agricultural products would lead to an increase in overall national prices and eventually to inflation. As a result, the opportunities for raising income for farmers will decrease. In order to provide incentives for farmers by raising purchasing prices would require sufficient finances that could support these measures.³³

D. Establishing a Single Price System by Liberalizing Prices

Within a market economy, prices have a distributing function that controls supply and demand in the market, but in a socialist planned economy it mostly acts a controlling mechanism. It is important to reduce this national control function of prices and at the same

³³ North Korea is currently allowing the market to free dispose of excessive agricultural products. For the purpose of procuring national supplies, additional incentives can be given to farmers by purchasing excess produce at prices that are on the same level (or close to) as market prices. In this case, it is necessary to procure financial resources for excess purchase.

time, expand its market function during the agricultural reform process. As a component of agricultural reforms, the purpose of gradually adjusting purchasing prices of agricultural products towards market prices is to enable market forces to decide the supply and demand of agricultural products by liberalizing prices. Price reform should not be limited to agricultural products. The nationally controlled price system must be converted to a system where supply and demand of the market decides the prices for all types of products. It is difficult for state-run companies or collective management systems to achieve efficiency within a double price system, so a single price system must be established in all areas. In other words, double prices and the distorted relative pricing system of all products must be converted into a single price system. To achieve this, it is necessary to transfer the right to control prices to lower level institutions, and continue to expand their rights.³⁴ In addition, by legislating price management, the price competition scheme must become systematized. In the early stages, it is important to manage various forms of prices such as nationally decided prices, nationally guided prices, agreed prices, market prices, and capped prices, and then gradually move towards price liberalization. In order to establish a system of price liberalization, intervention from the government or companies must be minimal. However, until a liberal price system of the market is established, items that are directly related to basic living for the population should be excluded from radical price liberalization, and distribution margins should be controlled through price caps or

³⁴ By implementing the decentralization of the authority to decide on prices, the North Korean government should move away from the principle of uniform prices and transfer rights to decide prices that belong to the 'Central Price Decision Committee' to local 'price decision agencies' and 'sales departments' within companies. The central authority's role should be limited to providing guiding prices.

other measures.

There is a need to convert the forced purchase system to a market mechanism in deciding agricultural prices. To achieve this, the North Korean government must reduce the number of items to purchase, and raise the prices slowly by linking the purchasing prices of these items to market prices. Excess purchases should be bought at prices that are almost identical to market prices since the early stages of reform. It is also vital to create an environment where national supply prices and market prices coincide, guided prices or price caps in the market are abolished, and prices are decided according to supply and demand. At the same time, agricultural products should be gradually allowed to be traded in markets. By eliminating double prices and converting the distorted relative pricing system to a single price system, productivity management efficiency of the agricultural sector can be greatly improved.

E. Convert to a Market-Oriented Distribution System

The experiences of agricultural reform conducted by other socialist countries imply the importance of reforming the distribution system of agricultural products. China focused on production during the early stages of reform by adjusting the agricultural production system first. However, these changes caused some side effects, such as the decrease in income for farming households, and the widening of the gap between urban areas and rural areas. Therefore, China supplemented the production system reform with adjustments in price policies, and continued with changes in the distribution system for agricultural products. In short, China's agricultural reforms were conducted in three steps (reforms in agricultural production → reforms in prices for agricultural products → reforms in the distribution system of agricultural products) that gradually

shifted toward the larger system.

North Korea must look to China's example to develop its own distribution system.³⁵ China opened diverse distribution channels, including free markets, to minimize the inefficiencies of state-run stores, and was eventually able to improve the distribution system for agricultural products thanks to the rapid growth of trade in large cities. Similarly, North Korea needs laws and mechanisms that will vitalize commercial distribution systems that are market oriented. It is expected that even after opening the agricultural products market, farmers will lack the resources to negotiate commercially in the markets because of their small scale farming operations and their lack of information concerning the market. Therefore, it is necessary to establish cooperative associations and other organizations that can better represent their interests.

After the July 1 measures, clearly many changes are occurring within the agricultural distribution system in North Korea, which until that point had been divided into national and private distribution channels. The reduction of the official national distribution channel and the expansion of the private, unofficial distribution channels like the farmers' markets are two processes which are occurring simultaneously. The price differential between state-run stores and the market is hindering the North Korean government's attempts to establish a socialist distribution system that is based on the national distribution system. When there is a shortage of supplies within the national distribution channel, an abrupt weakening of both the farmers' markets and integrated markets will inevitably lead to more confusion.

North Korea must convert its nationally controlled agricultural product distribution system into one that is controlled by private

³⁵ Kwon Tae Jin, et al, 『North Korea's policies on reform and opening the agricultural sector and North-South cooperation』, p. 255.

companies and individuals. The currently divided structure of commerce, made up of wholesale, retailing, provisions, and purchasing components, must be converted to a market oriented distribution system in order to improve efficiency. The distribution system of agricultural products controlled by state-run stores must be gradually reorganized into a system that is run by the market. In order to expand the commercial distribution network, it would be best to first energize the farmers' (integrated) markets to encourage competition with the national system. To achieve this, the physical distribution functions of the farmers' (integrated) market must be strengthened, and institutional measures must be devised so that it can be established as an official market.

Meanwhile, in the process of converting the distribution system, it is necessary to gradually abolish the forced uniform or allocated purchasing system of agricultural products by the government, and simultaneously shift toward a market purchasing system or one where the government signs contracts with the producers for purchases. Additionally, it is important to gradually eliminate the provisions system and allow the market to control supply and demand. However, in the initial steps of reform and conversion of the distribution system, the national stores network and cooperative stores network must also be utilized to reduce distribution margins and minimize inflationary pressures.

In order to reduce the national distribution network and establish a market oriented distribution system, what is needed is an efficient system that connects producer (farmer) → wholesale market → retail market → consumer. To build such a commercial distribution channel, it is necessary to reorganize the whole system, strengthen distribution facilities, and procure logistics facilities. First, distribution facilities for agricultural products must be spread evenly throughout the nation to implement central plans for purchasing companies, and wholesale centers and retailers for

agricultural products. Markets must be made permanent in rural areas, while market facilities must be improved to allow more citizens to access them. Logistics efficiency must be enhanced by expanding logistics facilities such as storage and transportation, various transportation and storage facilities must be procured to minimize losses after harvesting, and the processing industry for agricultural products must be nurtured. In other words, it is important to build a modern market by building various distribution facilities.

At the same time, national supplies of agricultural resources must be expanded, while a market based distribution system for agricultural resources must be established, moving away from planned distribution. This means that North Korea should shift towards a more commercially oriented supply system than that of the past. During this process, it is necessary to establish a system that can consistently provide public services such as agricultural skills education, agricultural irrigation, distribution facilities and functions.

Ultimately, the reform of the distribution of agricultural products, which is a major axis of North Korean agricultural reform, depends on guaranteeing and expanding free and individual economic activities, including of course, the distribution of agricultural products. The participation of individuals in the market must be allowed, while fees for conducting business in the markets must be imposed as well as taxes for trade and income. The nationally controlled purchasing system and distribution system must be reduced and ultimately abolished, and encouragement given to the growth of autonomous market trade by individual economic actors.

V. Conclusion

In North Korea, which has maintained a socialist regime for the past 50 years, changes have occurred in the agricultural sector, some of which started before and others which began after the July 1 measures. The biggest reason behind this change is to improve the inefficiencies of collective farms and increase production. The reforms have relaxed collectivism in the production sector, expanded agricultural autonomy for collective farms and farmers to encourage responsible farming, and in some regions there were pilot projects in private farming. In terms of distribution, the sub-team management system was implemented and expanded to enhance farming incentives, and the principle of distribution based on achievement was strengthened. In terms of pricing and distribution, national prices were rationalized and the farmers' markets were reorganized to integrated markets.

Following these reforms, both positive and negative trends are observed in North Korea's agricultural production, distribution, and pricing systems. Due to higher levels of motivation among farmers,

agricultural production has increased slightly, but selfishness among farmers, which can be said to have been a detrimental by-product of this change, has taken place as well. Income levels for farmers and farms have increased at relatively higher levels compared to other sectors, however, the income gap among farmers is growing. Thanks to the expansion of the commercial distribution network, market trade among agricultural products is booming, but inflation for general prices is rising as well.

Compared to the reforms implemented by China and Vietnam, North Korea's agricultural reforms remain at a very basic level. China acknowledged various rights concerning land usage by introducing a system responsibility for farming household production, raised purchasing prices for agricultural products, activated trade based on market supply and demand, and other reform measures concerning price and distribution. Most notable is that in the early phases of the reforms, China dissolved the People's public company and abolished the collective farm system as well.

Broadly speaking, Vietnam followed an agricultural reform process similar to China. It began with the introduction of the bidding-style production contract system, and implemented the production contract system for agricultural products, allowed long-term land ownership, and further acknowledged various rights. It liberalized the production and distribution of agricultural products, and introduced a pricing system determined by market mechanisms. The biggest difference between China and Vietnam's agricultural reforms is the abolition of the collective sector. Vietnam has reduced the collective aspects of agriculture, but they have not been completely eradicated.

The agricultural reform of North Korea will be best implemented by acknowledging the regime's special characteristics. North Korea has been a socialist system up to the present time, and is uniquely

persistent in maintaining national ownership of land. Considering these characteristics, the Chinese case of radical change such as the dissolution of the collective farms is not a direction the North Korean government wishes to pursue. Rather, following the Vietnamese case that gradually reduced the collective aspects is an approach which will be able to minimize internal opposition and side effects for North Korea.

The fundamental problems of this land ownership system should be put aside to be resolved when regime change occurs. First and foremost, North Korea must implement reforms by separating ownership and usage rights for land. Farmers must be given land usage rights, and important agricultural resources that are necessary for farming must be sold to farmers so they can own them. To truly implement agricultural reform, land usage rights must be guaranteed and other related rights to disposal must be bestowed on individuals, and private ownership of the major means of production must be allowed as well. Based on these measures, the private farming system, which is currently being test run, must be developed so that the agricultural household production responsibility system may be established in all collective farms.

The reforms concerning prices and distribution of the agricultural sector must be implemented along with reforms of land systems and agricultural production systems. Specifically, in order to provide incentives for farmers, purchasing prices for agricultural products must be gradually raised to levels which are more realistic. The problem with this is how to process the financial burden required by raising purchasing prices. This will be difficult to solve because it is related to the overall economic situation of North Korea. However, if North Korea continues to participate in dialogue about their missiles and nuclear weapons programs with the international community, it can expect support from South Korea and the international community, and can reduce their

financial burdens.

The agricultural reforms must be implemented so that income levels for farmers can be raised. Therefore, the distribution system must shift towards a direction where market trade for agricultural products produced by farmers must be expanded. The national distribution network must be gradually reduced and the commercial distribution network must be expanded so that ultimately a mechanism can be built where prices for agricultural products will be decided by market supply and demand.

To reform North Korea's agricultural sector, the separation of ownership and usage rights for the means of production, introduction and expansion of the household production responsibility system, raising purchasing prices, establishment of a single price system through price liberalization, and conversion to a market oriented distribution system are necessary. One cannot expect North Korea to simultaneously implement these projects. However, if North Korea truly seeks to revive their agricultural sector and increase productivity, then at the least these agricultural policies outlined above should be executed to guarantee success.



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