

# Korea Unification & Food Security



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- **After the unification**, predict supply & demand and set acquisition method for 70 million people's food

- Analysis of **food situation** in South & North Korea
- Study based on the **nutritional anthropology**
- **Potential assessment** of North Korea's food production
- **Prediction** of Korean food supply & demand assuming unification in 2015
- **Comparison** of the two camps' sea food production, **survey** of changing consumption, and **study** of further improvement

➡ **Seven suggestions of food policy for Korea unification**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- 1. Food situation in two Koreas**
- 2. N. Korea's food production**
- 3. Food demand in case of sudden unification**
- 4. Fishery products in two Koreas**
- 5. Food industry of two Koreas**
- 6. Food policy projects for Korea unification**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- I -

# Food situation in Koreas

## Index

Food Situation

N. Korea's Food Production

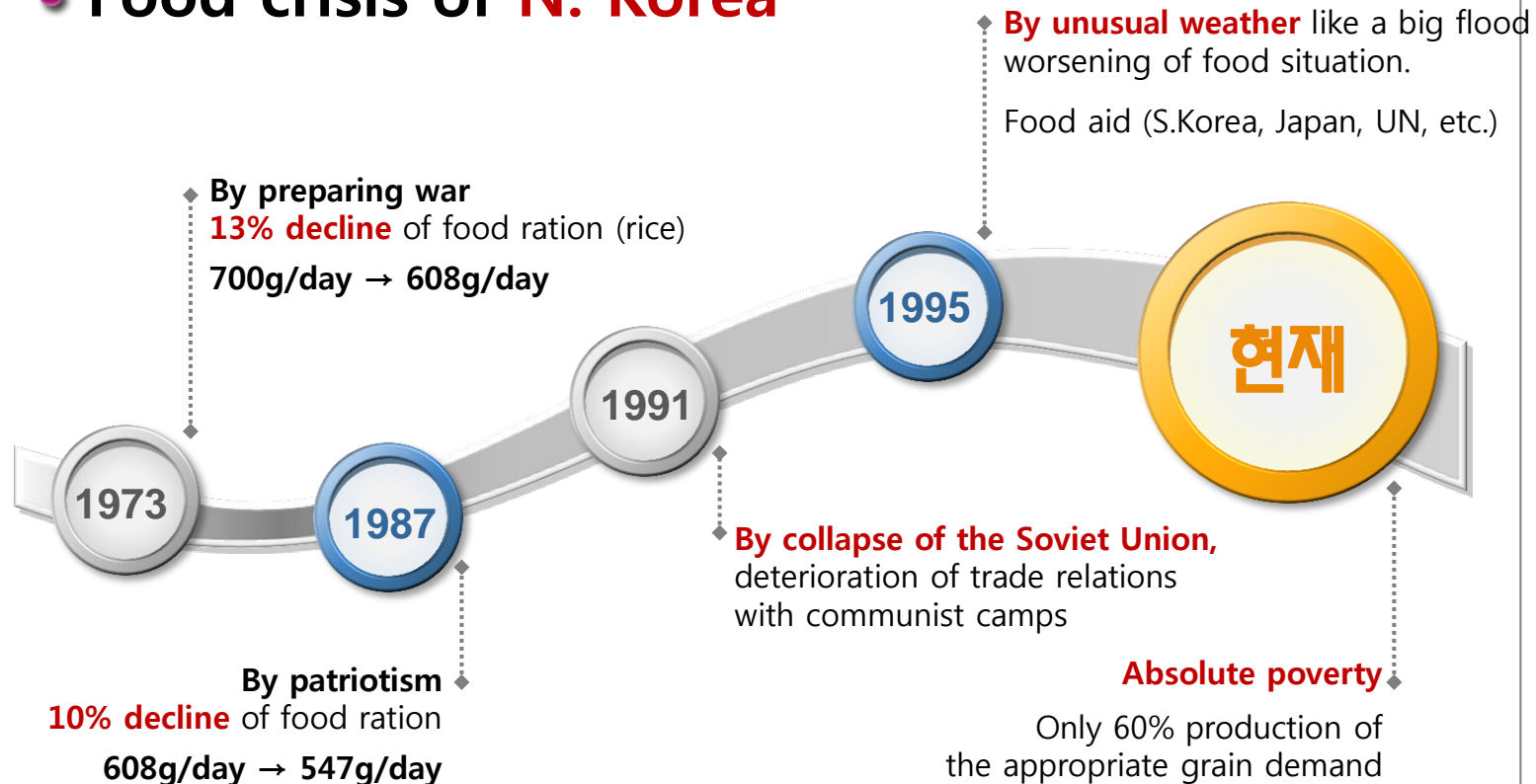
Food Demand: sudden unification

Fishery Products

Food Industry

Food Policy Projects for unification

## Food crisis of N. Korea



## ➔ Food shortage of N. Korea is expected to continue

because of **inefficiency** of agricultural system, **shortage** of agricultural materials (fertilizers, pesticides, etc.), and **contradiction** of economic regime

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Aid of N. Korea by S. Korea

» **1995**

Free aid of rice 150,000 tons

» **After 2000**

Loan (10 year-grace, 20 year-repayment, interest rate: 1%/year)

» **1995 ~ 2007**

Rice 2.5 million tons, Corn 0.2 million tons

» **2008**

- The Korean government interrupted food & fertilizer aid to N. Korea (Worsening of the two Koreas' relationship)
- Provide aid for vulnerable group (infants) through government, private and international organization

» **2009**

Supply vaccine and hand sanitizer for swine flu

» **2010**

Provide aid of rice, cement, and instant noodle for flood damage in Sinuiju

# Food situation in two Koreas

## Index

Food Situation

N. Korea's Food Production

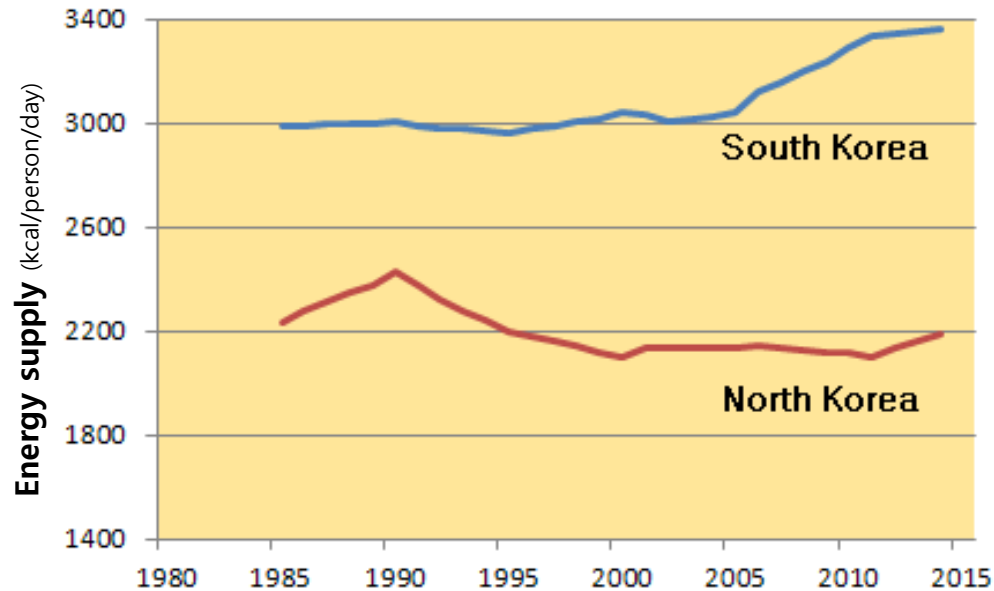
Food Demand: sudden unification

Fishery Products

Food Industry

Food Policy Projects for unification

- **Change of food energy supply** (kcal/person/day) of the two Koreas



- ➔ The current supply of N. Korea(2014) was **2/3 of the supply of S. Korea**

## Index

Food Situation

N. Korea's Food Production

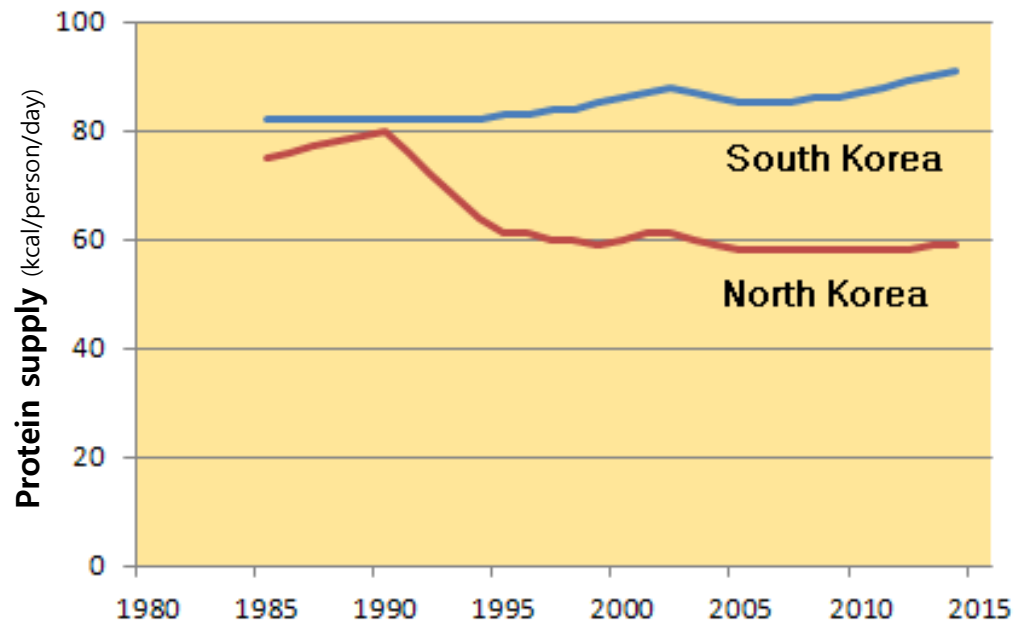
Food Demand: sudden unification

Fishery Products

Food Industry

Food Policy Projects for unification

- Change of food **protein supply** (g/person/day) of the two Koreas



➔ The current supply of N. Korea(2014) was **2/3 of the supply of S. Korea**

## Index

Food Situation

N. Korea's Food Production

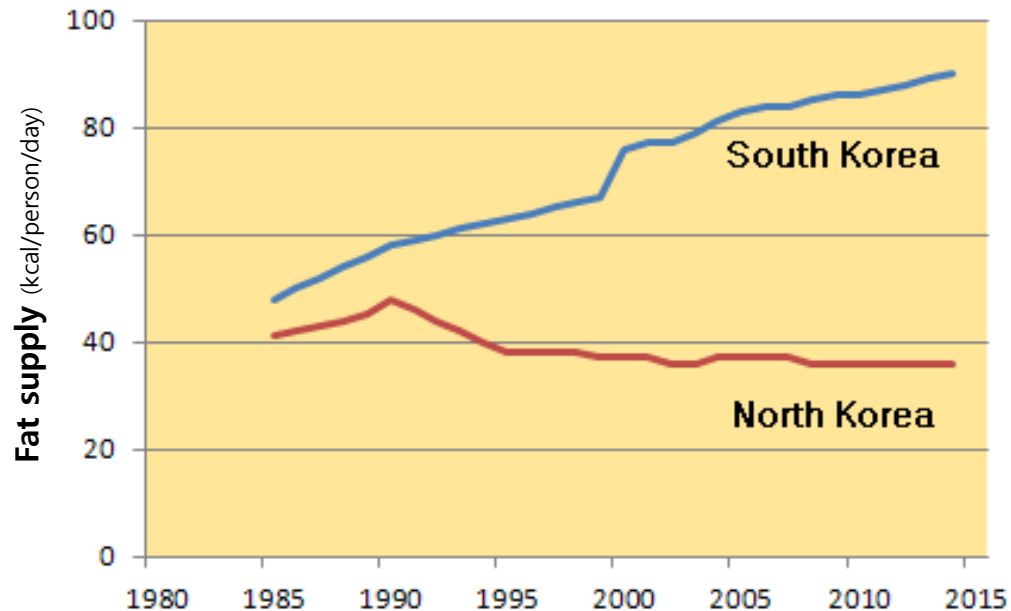
Food Demand: sudden unification

Fishery Products

Food Industry

Food Policy Projects for unification

- **Change of food fat supply** (g/person/day) **of the two Koreas**



- ➔ The current supply of N. Korea (2014) was **less than 1/2 of the supply of S. Korea**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Food and nutrition situation of **N. Korea**

- **Vulnerable(weak) groups were more than 7.6 million people**
  - Children, pregnant & nursing women, the elderly, the disabled, and tuberculosis patients
- **The UNICEF/WFP/N. Korea joint survey on 2002**
  - One-third of **pregnant women** are malnourished and anemic
  - Percentage of **Underweight children**:
    - ✓ Region of Nampo and Pyongyang - 15%,
    - ✓ Region of North-Hamgyeong and Yanggang - 25%
  - Percentage of **Stunted children**:
    - ✓ Region of Nampo - 25%,
    - ✓ Region of South-Hamgyeng - 48%
  - **Food shortage** in rural areas is more serious than in urban areas

❖ UNICEF (United Nations Children's Fund)

❖ WFP (World Food Programme)

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Food and nutrition situation of S. Korea

- **Increase adult diseases** by nutritional excess and overweight
- Face high level of **food dependence** on overseas import because of food waste and lowered food self-sufficiency
  - **Flour**: 100% imported
  - **Edible beans**: 30% self-sufficiency, 70% imported
  - **Feed grains**: Less than 3% self-sufficiency, 97% imported
- Reduced **rice consumption** by westernization of diet
- Increase in **flour consumption** due to intake of instant noodle

# Food situation in two Koreas

## Index

Food Situation

N. Korea's Food Production

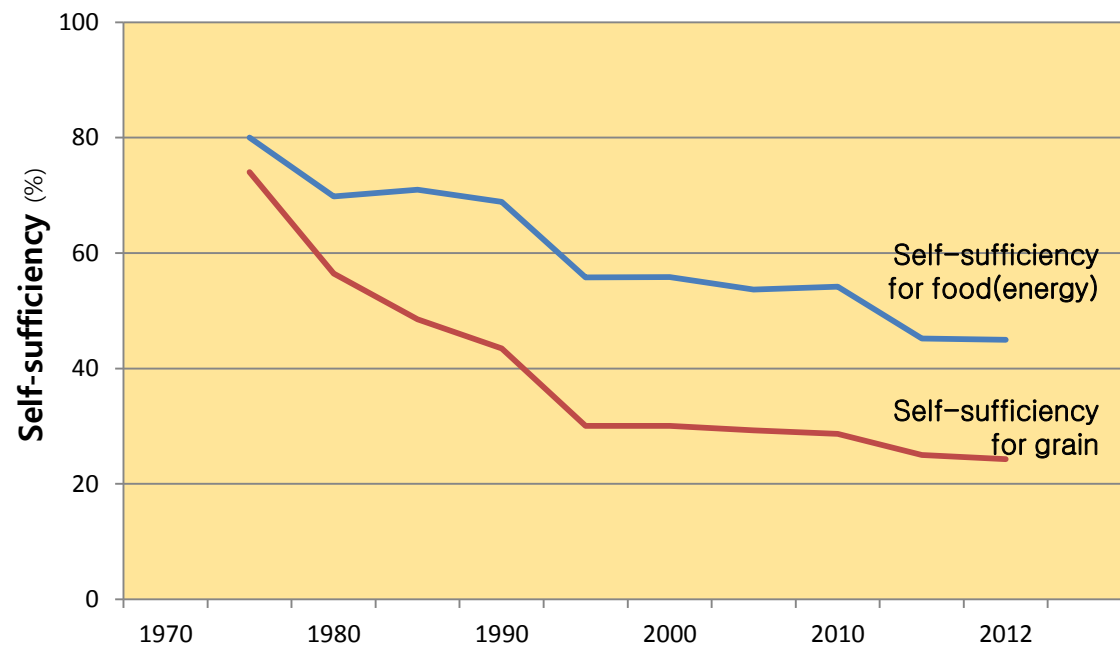
Food Demand: sudden unification

Fishery Products

Food Industry

Food Policy Projects for unification

## Change of food self-sufficiency of S. Korea



**➔ Decline of total food self-sufficiency**

## Index

Food Situation

N. Korea's Food Production

Food Demand: sudden unification

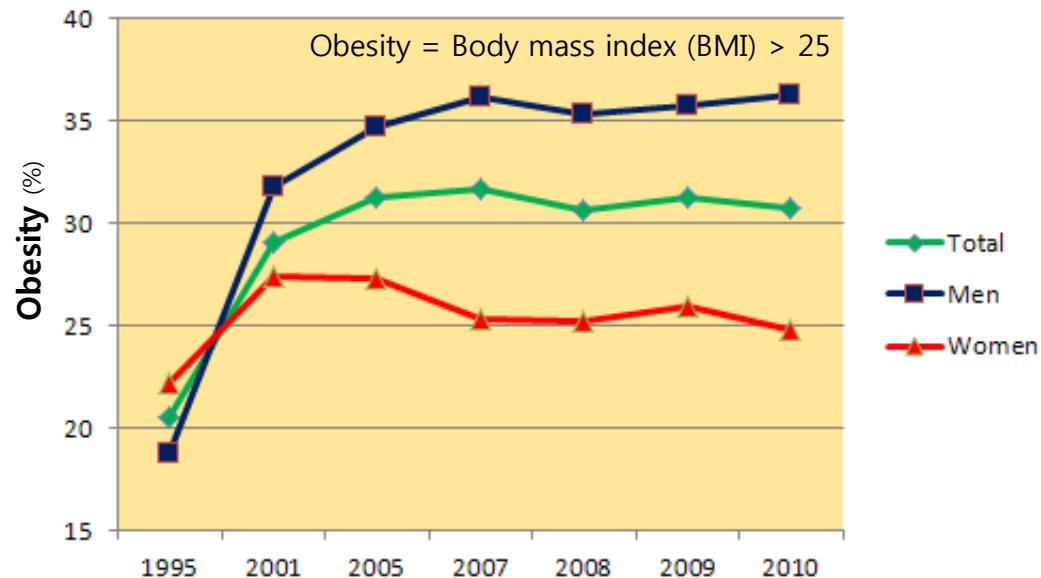
Fishery Products

Food Industry

Food Policy Projects for unification

## ● Obesity in S. Korea

- In 1995 : Men: 18.8%, women: 22.2%, and total: 20.5%
- **In 2010** : Men: 36.6%, women: 24.8%, and **total: 30.8%**



- ➔ **Increase of obesity population** by westernization of diet, increased food intake, and excessive ingestion of animal foods

## Index

Food Situation

N. Korea's Food Production

Food Demand: sudden unification

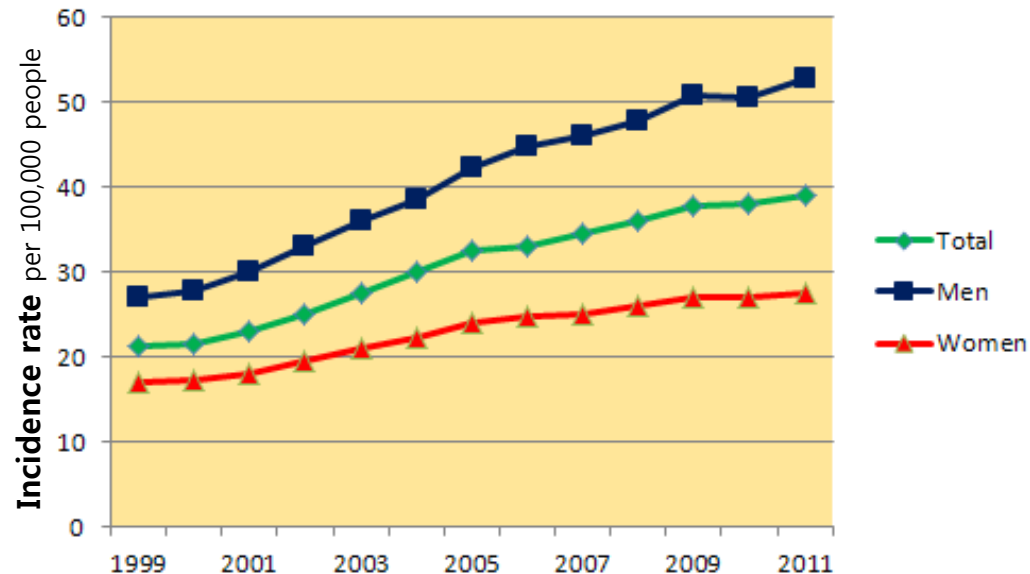
Fishery Products

Food Industry

Food Policy Projects for unification

## • Trends of colorectal cancer of S. Korea

- From 1999 to 2011, a 2-fold increase in incidence of colorectal cancer



**➔ Excessive intake of animal foods → Increasing adult illnesses**

## Index

Food Situation

N. Korea's Food Production

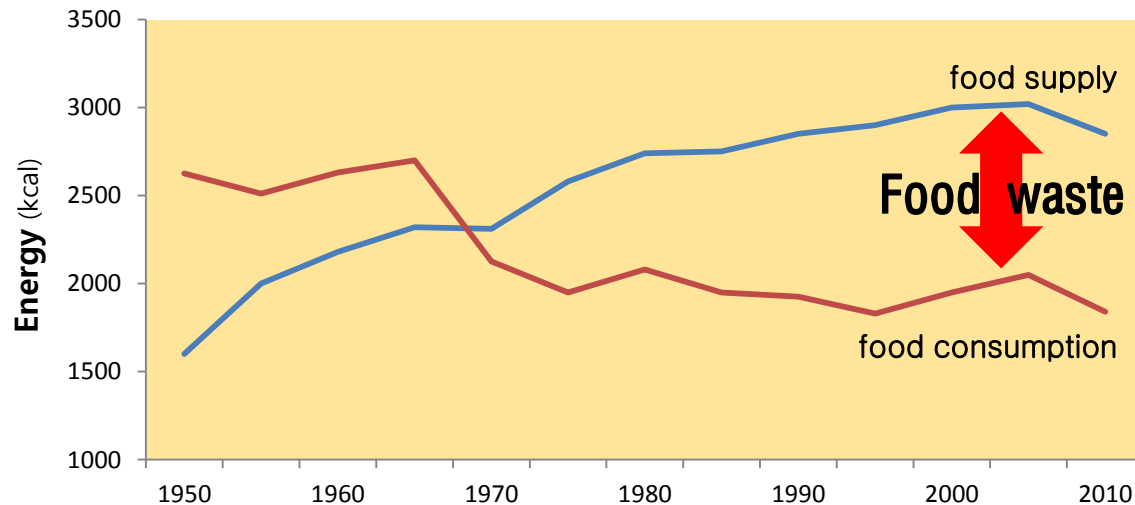
Food Demand: sudden unification

Fishery Products

Food Industry

Food Policy Projects for unification

## Trend of food supply and consumption (1person/day) of S. Korea



- Prior to 1970s: Consumption was higher than supply  
High consumption of various hunger crops
- Since 1970s: Supply was higher than consumption  
Imported insufficient food
- **Pattern:** Gap between supply and consumption is increasing

 waste **more food**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## ● Assessment of nutritional anthropology of the two Koreas

	S. Korea	N. Korea
Farming population (person)	2,962 (2011)	8,573 (2008)
Ratio of farming population (%)	6.0 (2011)	36.8 (2008)
<b>Average food intake (g/person/day)</b>	<b>1,300</b>	<b>500 (+)</b>
<b>Energy intake (kcal)</b>	<b>2,000</b>	<b>1,600</b>
Component ratio of energy (Carbohydrate : protein : fat)	65 : 15 : 20	80 : 12 : 8
Self-sufficiency of grain (%)	26	63
Average height (cm, men/women)	173/159	766/155
Change of weight (%)	obesity rate of adult, 33	chronic malnutrition, 42
Incidence rate of tuberculosis / mortality rate (person / 100,000 person)	90/8	344/25
<b>GDP per person (US \$, 2014)</b>	<b>28,739</b>	<b>621</b>
Political system	open free liberal democracy	closed communitarianism

**➔ S. Korea** : High obesity rate by high fat intake,  
Low self-sufficiency of food

**N. Korea** : Malnutrition and tuberculosis patients due to lack of  
food & energy intake

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Optimized model of Korean food nutrition

### • Nutritional aim of Korean:

- 2,000-2,500 kcal daily intake per adult male

### • Calories composition ratio:

- carbohydrate(75%), protein(15%), fat(10%)

#### Recommended daily allowance for adult male

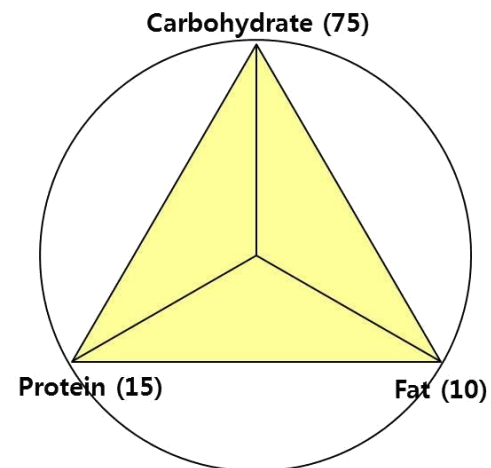
- Calorie: 2000-2500 kcal
- Protein: 80-90 g

#### Calorie component ratio

- Carbohydrate: 73-77 %
- Protein: 15-18
- Fat: 10-12 %

#### protein component ratio

- Animal protein: 20-30 %



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- II -

# N. Korea's food production

## Index

Food  
Situation

**N. Korea's  
Food  
Production**

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## ● N. Korea's food production and composition

- **Food production of N. Korea in 2012: 4.7 million tons**
  - About **1.8 million tons of insufficiency** compared with the average of standard calorie requirement which recommended by FAO

(1000 ton)

	Crops	Rice	Corn	Barley	Legume	Root and tuber crops	etc
2006	<b>4,484</b>	1,895	1,757	211	155	454	19
2007	<b>4,005</b>	1,527	1,587	247	152	474	18
2008	<b>4,306</b>	1,858	1,544	222	156	508	17
2009	<b>4,108</b>	1,910	1,301	203	146	530	17
2012	<b>4,676</b>	2,037	1,732	187	142	560	18
Average	<b>4,316</b>	1,845	1,583	214	150	505	18
Composition ratio (%)	100.0	42.8	36.7	4.9	3.5	11.7	0.4

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Cultivation of N. Korea

### • Farming population & acreage

- **N. Korea:** 8.6 million (36.8%) in 2008

Cultivation acreage per Household: 0.98 ha

- **S. Korea:** 3.2 million (6.6%) in 2008

Cultivation acreage per Household: 1.45 ha

**➔ Farming population of N. Korea is much higher than S. Korea**

### • Usage of field crop cultivation (N. Korea > S. Korea)

- ① **High rate of slope land cultivation** due to the geographical characteristic.
- ② **Harsh weather condition** for rice cultivation → shortage of crop growing period due to low temperature and precipitation

# N. Korea's food production

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## Reasons for low crop productivity of N. Korea

1

No update of **superior species** and **technical development**

2

Decline of aids (manure and manufacturing supplies) from S. Korea due to the **long economic recession**

3

**Loss of soil fertility**  
due to the continuous cultivation of single kind of crops

4

**Natural disasters** such as drought, typhoon, and flood

5

Lack of motivation for production due to the **communism**

6

**Global isolation**  
due to the collapse of soviet union and change of social structure in China

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- **Solutions for increase of food productivity of N. Korea**
  - Set-up for **infrastructure** of agricultural materials
    - Modernization of old manure factories in N. Korea
    - Aid from S. Korea
  - **Mechanization** of agriculture
    - Mechanization of agriculture have stopped since 1980s due to shortage of fuel and machine parts
  - Improvement of **production system**
    - Development of superior species
    - Improvement of cultivation techniques
    - Improvement of irrigation facilities

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- **Food production strategy after unification**
  - **Increasing the self-sufficiency of rice**
    - S. Korea : maintain and improvement of rice paddy area
    - N. Korea : improvement of the productivity per acre
  - **Improve the usage of field crop cultivating area of N. Korea**
    - Switch corn planting to soybean
    - Development for soybean species
    - Mechanization of farm industry
  - **Decrease the level of dependence on animal feeds**
    - Produce own animal feed in N. Korea's field crop cultivating area
    - Expand area of meadow in the N. Korea region
  - **Maintain the current state of other crops production**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- III -

# Food demand in case of the sudden unification

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Prediction of food demand after unification (KFSRF)

- Prediction time of unification: 2015
- Prediction of food demand for 10 years after unification
- **Plan 1**
  - 1) **Maintain calorie intakes** per each N. Korea resident **right after unification**
  - 2) **Increase to regular calorie intakes after 10 years, unification** (year 2025)
- **Plan 2**
  - 1) Provide **food ration** and transfer to the **market economy right after unification**
  - 2) **Increase food intake** as same as food intake of 1980's S. Korea **after 10 years, unification** (year 2025)

# Food demand in case of the sudden unification

<b>Index</b>
Food Situation
N. Korea's Food Production
<b>Food Demand: sudden unification</b>
Fishery Products
Food Industry
Food Policy Projects for unification

## ● Prediction of food demand after unification (KFSRF)

million tons

Year	Korea					Import (3)	Shortage of products in Korea	
	Demand		Supply	Shortage			Plan 1 (1)+(3)	Plan 2 (2)+(3)
	Plan 1	Plan 2		Plan 1 (1)	Plan 2 (2)			
2015	29.0	29.5	28.5	0.6	1.0	15.7	16.3	16.7
2020	30.5	30.7	29.5	1.0	1.1	15.8	16.8	16.9
2025	31.9	31.7	30.4	1.4	1.2	15.8	17.2	17.0

### ➔ Shortage of food after 10 years of unification (2025)

- Plan 1 : 17.2 million tons
- Plan 2 : 17.0 million tons

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- **Implication of food demand after unification**
  - **Increase food production** from two Koreas.
  - **Improve the self-sufficiency of soybean.**
  - **Improve self-sufficiency of animal feeds** to decrease the dependence on animal feed import.
  - **Maintain and enhance** the superior farmlands.
  - **Establish food policies** for preparation of the unification.

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- IV -

# Fishery products in two Koreas

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

**Fishery  
Products**

Food  
Industry

Food Policy  
Projects  
for unification

- **Present condition of fishery product supply & demand of N. Korea**
    - Long stagnation of fishing industry in 1990s
    - Decrease of fishery resources
    - Reduce fishing boats usage due to oil shortage
    - Increase exporting only for earning foreign currency
      - In 1995~1997: Export 59,481 tons among total 347,229 tons
      - In 2003~2005: Export 123,368 tons among total 268,700 tons
- ➔ Total production decreased, but export increased**
- The annual consumption is decreased :
    - 16.9 kg/person/year (1995-1997) → 7.2 kg/person/year (2003-2005)

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

**Fishery  
Products**

Food  
Industry

Food Policy  
Projects  
for unification

## ● Fishery resources of S. Korea

- The 8<sup>th</sup> rank in fishery products export
- Total fishery production was 10 million tons (1980s) → 7.9 million tons (2014).
- **Fishery industry is deteriorated** due to increasing price of fishing materials such as oil and repairing boats.
- **Reduction of fishing areas** due to the Korean · Japanese and the Korean · Chinese fishery agreement.
- The condition of fishery industry has worsen because of **opening of the market**, and the **abolishing marine subsidies policy from WTO**.

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

**Fishery  
Products**

Food  
Industry

Food Policy  
Projects  
for unification

## ● Fishing Industry of **N. Korea** after Unification

### • Potential areas of fishing industry

- **Potential cities** : Nampo, Sinuiju
  - ✓ Growth potential to international markets due to accessibility
- **Nampo**
  - ✓ Nampo shipyard
  - ✓ Being able to supply to Pyongyang city and Pyongan buk-do
  - ✓ Many salterns
- **Sinuiju**
  - ✓ Agriculture and fishing are major industries
  - ✓ Many salterns

### • Surrounding condition after Unification

- Set agreement with surrounding countries in cooperation fishing industry with China and Russia

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- V -

# Food industry of two Koreas

# Food industry of two Koreas

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- Current status of **S. Korea's Food Industry**
  - S. Korea is almost achieving **developed countries for economic level**
    - Emphasize on the high quality of foods
    - Easy to eat
  - Aiming **well-being** functional foods
  - Increasing demand on **stability** and **safety**
  - Preference on **environmentally friendly** products

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Current status of S. Korea's Food Industry

### • Trends in Food Industry Development

#### 1. Healthy foods



**kimchi**



**vegetable  
pickle**



**sauce,  
paste**



**fish  
pickle**

#### 2. Globalization of brand



**Choco  
Ple**



**Instant  
noodle**

#### 3. Traditional foods



**bibimbap**



**bulgogi**



**ginseng  
chicken**



**lavar**

#### 4. Functional food system



**red  
ginseng**



**temple  
food**



**bapsang**

# Food industry of two Koreas

## Index

Food Situation

N. Korea's Food Production

Food Demand: sudden unification

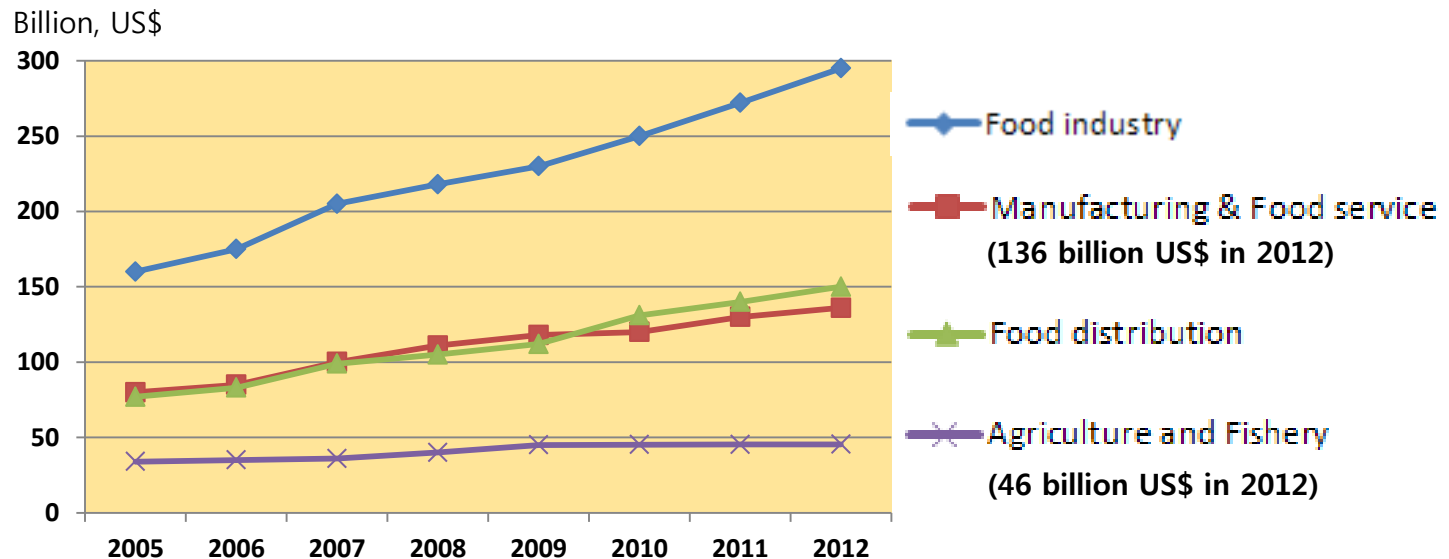
Fishery Products

Food Industry

Food Policy Projects for unification

## Current status of S. Korea's Food Industry

- Food industry is composed of **Manufacturing & Food service** industry, **Food distribution** industry, and **Agriculture & Fishery** industry



➔ **Scale of Manufacturing & Food service industry** are much bigger than agriculture and fishery industry's

# Food industry of two Koreas

## Index

Food  
Situation

N. Korea's  
Food  
Production

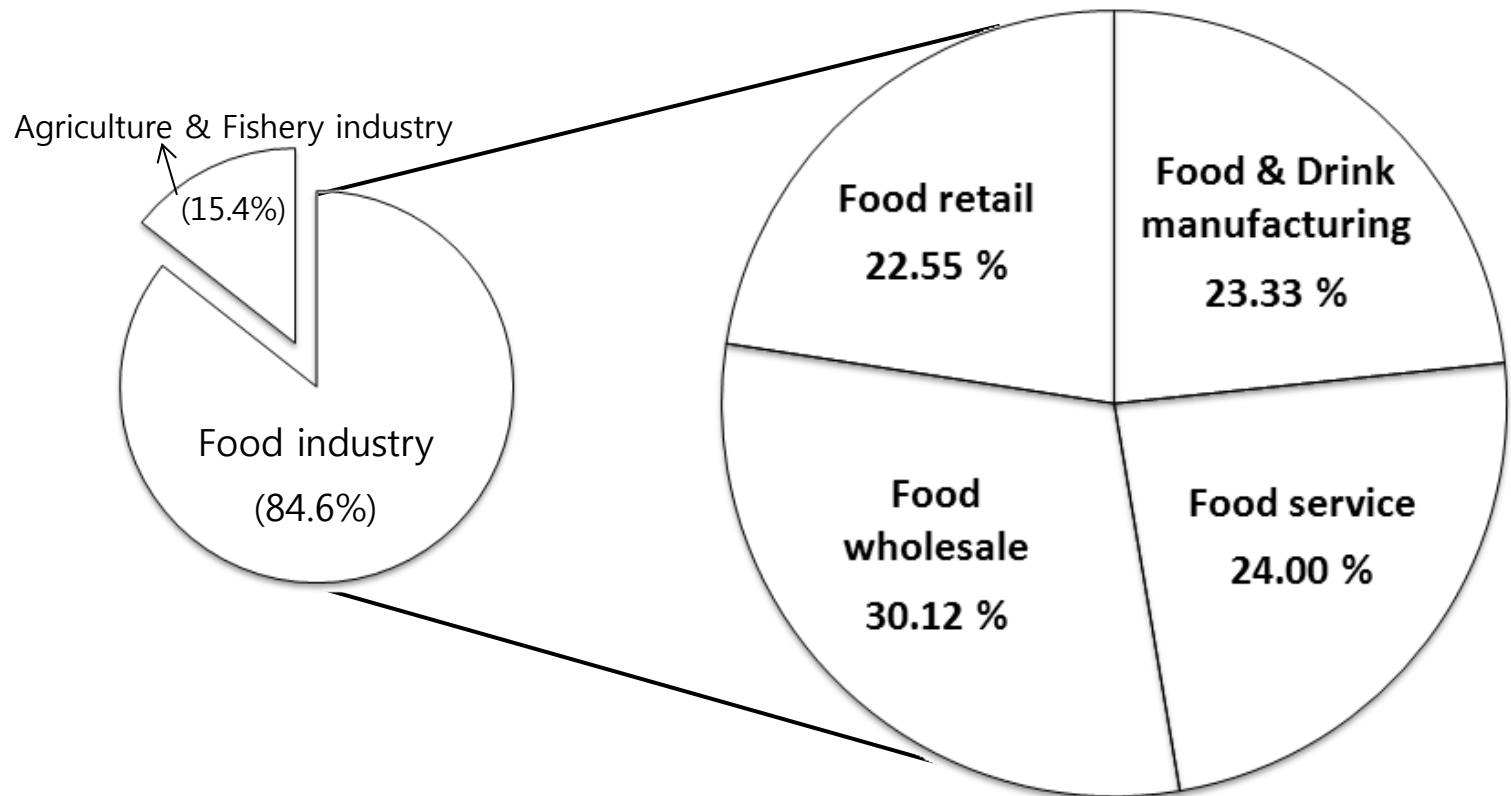
Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Current status of S. Korea's Food Industry



# Food industry of two Koreas

## Index

Food  
Situation

N. Korea's  
Food  
Production

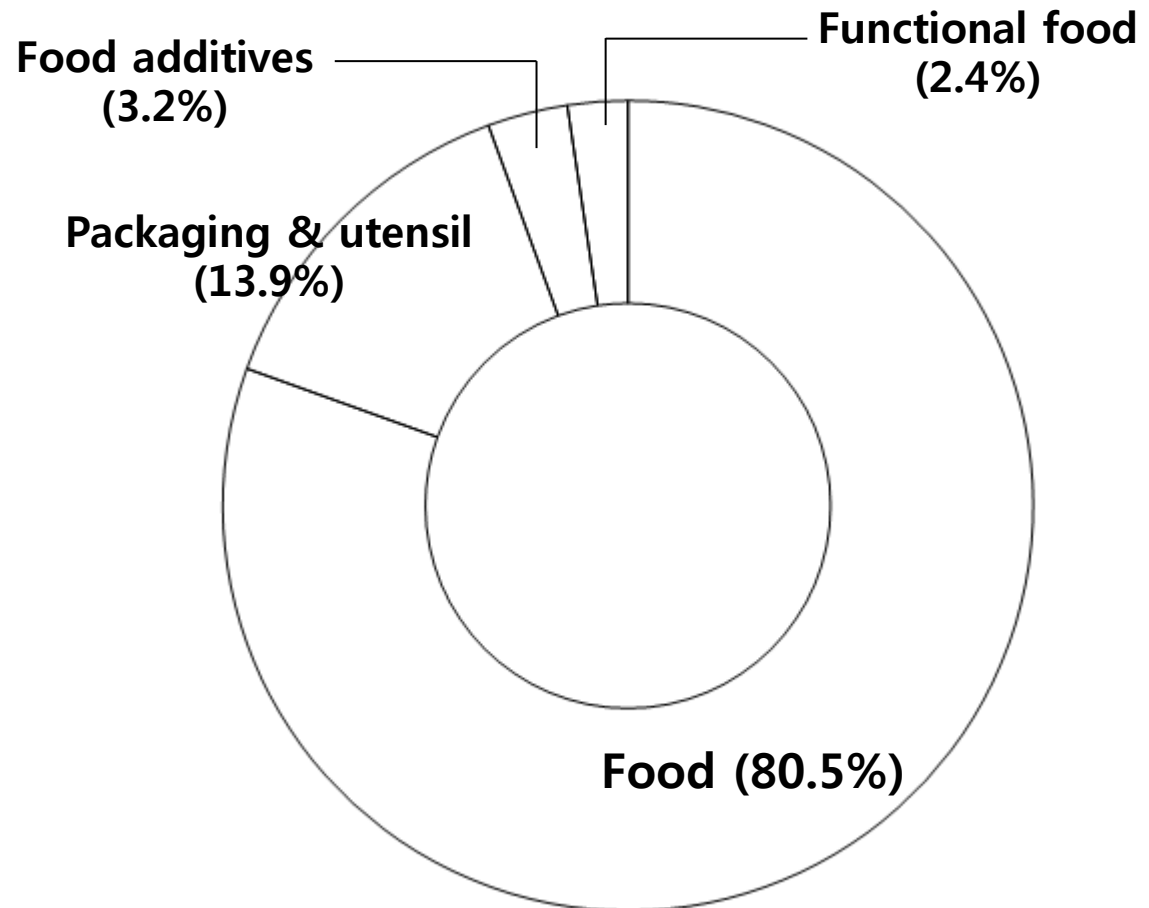
Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- **Classification of Food Manufacturing Industry of S. Korea by production**



## Index

Food Situation

N. Korea's Food Production

Food Demand: sudden unification

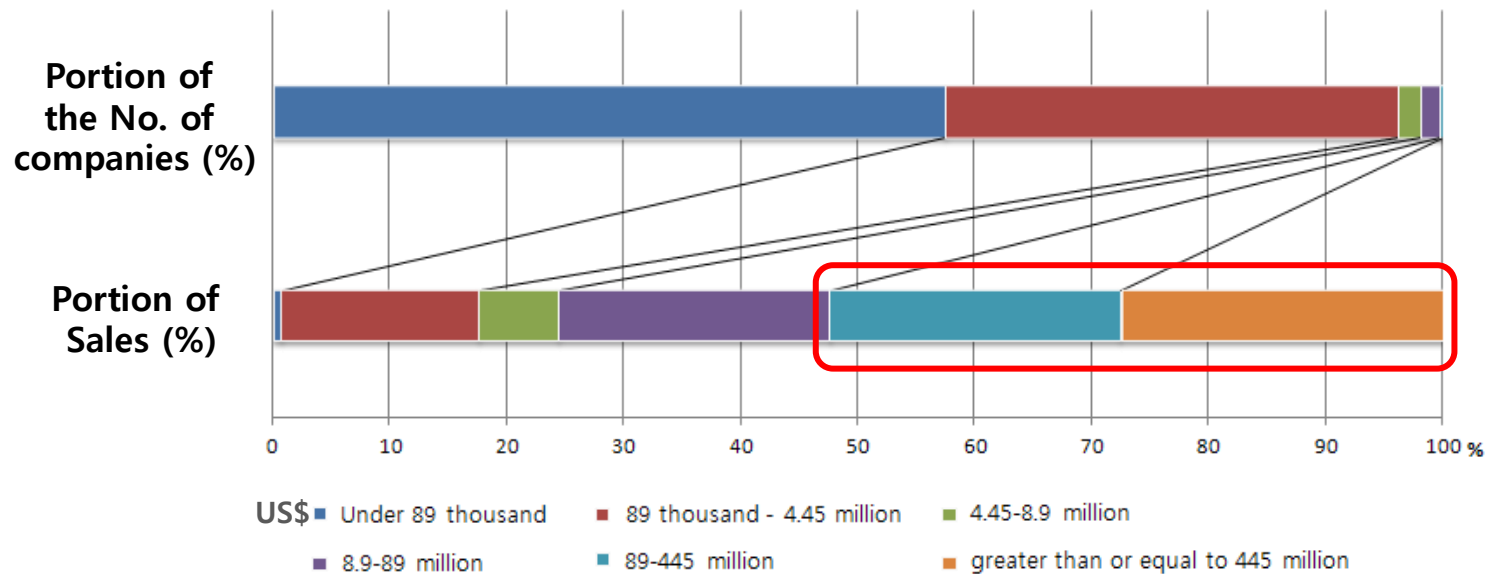
Fishery Products

Food Industry

Food Policy Projects for unification

## ● Food manufacturing industry of S. Korea

### • Number of companies vs. sales in S. Korea (2012)



➔ **Companies** with sales of greater than 89 million dollars (**0.26%**), occupied about **half portion of sales in the total market**

# Food industry of two Koreas

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Food manufacturing industry of S. Korea

- Companies with sales over US \$890 million (Korean currency 1 trillion won) : **12 companies** (2012)



**LOTTE**



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## Scale of the Food market of S. Korea (2012)

Unit : \$ 1 million, %

Ranking	Country	2012		Ranking	Country	2012	
		Scale of market	Portion			Scale of market	Portion
1	USA	457,816	18.8	12	Canada	50,188	2.1
2	China	336,639	13.8	13	Australia	45,527	1.9
3	Japan	221,200	9.1	<b>14</b>	<b>Turkey</b>	<b>35,221</b>	<b>1.4</b>
4	Brazil	154,077	6.3	15	India	33,198	1.4
5	Germany	143,535	5.9	16	Netherland	28,873	1.2
6	France	101,542	4.2	17	Poland	27,581	1.1
7	UK	90,878	3.7	18	Argentina	26,966	1.1
8	Russia	86,587	3.5	<b>19</b>	<b>Korea</b>	<b>24,808</b>	<b>1.0</b>
9	Italy	86,152	3.5	20	Indonesia	24,087	1.0
10	Mexico	73,221	3.0	Total of top 20 countries		2,106,809	86.3
11	Spain	58,713	2.4	Total		2,441,093	100

 The scale of S. Korea's food market was **\$ 24.8 billion** and ranked the **world's top 19**

# Food industry of two Koreas

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## ● Food trade(import & export) of S. Korea(2012)

Unit : \$ 1 million, %

Rank	Country	Food imports	Food exports	Food trade	Rank	Country	Food imports	Food exports	Food trade
1	USA	103,533	107,768	211,301	12	Canada	30,470	33,515	63,985
2	Germany	83,030	74,402	157,432	13	Russia	45,564	10,111	55,675
3	France	56,906	67,426	124,332	14	Mexico	19,575	21,435	41,010
4	Netherland	43,858	70,821	114,679	15	Australia	11,427	27,259	38,686
5	UK	58,852	29,569	88,421	16	Thailand	8,155	29,370	37,525
6	China	32,419	52,795	85,214	17	Argentina	1,691	31,436	33,127
7	Italy	46,731	37,776	84,507	18	Poland	13,755	19,115	32,870
8	Japan	73,268	4,485	77,753	19	Denmark	12,462	20,067	32,529
9	Belgium	35,027	40,673	75,700	20	India	5,381	23,850	29,231
10	Sapin	32,964	40,367	73,331					
11	Brazil	9,122	58,415	67,537	<b>21</b>	<b>Korea</b>	<b>22,640</b>	<b>6,047</b>	<b>28,687</b>

 **Serious imbalance** between imports and exports

- Amount of food imports (78.9%) + amount of food exports (21.1%)

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Restaurant services in S. Korea

- Enter the global market with **franchising**.
- Tendency of **eating at home has decreased**, and the portion of the **consumption in restaurant has increased**.
- **Food manufacturing** : 66 billion US\$
- **Restaurant services** : 70 billion US\$

**➔ Scale of restaurant services is surpassed that of food manufacturing**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- Current status of **N. Korea's Food Industry**
- **Planned production systems** based on the government control
  - Produce the raw materials for domestic need
  - Due to the economic recession and difficulty in providing the raw materials and power supply, **food supply has been almost stopped**
- Produce food (soy sauce, soybean paste, cooking oil, candies, biscuits etc.) **by hand producers.**

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Food processing factories in **N. Korea**

### • Grain processing factory :

- Most important food processing plant in N. Korea
- The **yield has decreased in recent years**

### • Milling factory :

- Processing capacity of flour, being estimated as 450,000tons/year
- **Production** capacity is **decreased** significantly because of the decline of factory operation.

### • Dairy factory :

- Rarely produced

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Food processing factories in **N. Korea**

### • Korean sauce factory :

- **Significantly reduced production** due to lack of raw materials.
- Rely the production of basic foods such as doenjang and soy sauce in **private markets** or the production by **residents themselves**.

### • Seafood factory :

- **Significantly reduced production** due to lack of raw materials.
- Most of processed seafood products are **supplied to soldiers, hotels, and party cadres**.

### • Salt factory :

- Chronic salt deficiency
- Produced salt is used for military supplies factory and industrial purposes.

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Food processing factories in **N. Korea**

### • Fruit processing factory :

- Most of the N. Korean defector testified that they scarcely had a chance to eat processed vegetable.

### • Alcoholic liquors factory :

- Produced as a regional specialty using regional raw materials.
- Pyongyang Soju, Gaeseong Ginseng liquor, etc

### • Tobacco factory :

- Consumption of tobacco (adult per capita): the 3rd in the world
- Tar content is high due to the low quality of the filter
- Most N. Koreans smoke 'Maracho' which is made by self-production

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- VI -

# Food policy projects for Korea unification

## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

- Legislation of 1.2 million tons of rice holding program based on Trust-building process policy

- **Storage of Rice:**

- Storing 0.6 million tons of rice annually for 2 years  
and then releasing **the reserved rice** to processing industry



# Food policy projects for Korea unification

**Index**

- Food Situation
- N. Korea's Food Production
- Food Demand: sudden unification
- Fishery Products
- Food Industry
- Food Policy Projects for unification

- **Implementation of rice coupon system to improve the welfare of the poor**

- After unification, it can be **legal basis** to supply the rice reserves to N. Koreans
- Set the **welfare system** for poor people in **S. Korea**
- After Korea unification, almost all **N. Koreans** fall under the **lower income family**, so they can receive the benefits



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## ● Increase rice production

- To generate rice demand because of **rice storage(1.2 million tons)** for unification, **rice coupon system**, and **policy support of rice processing industry**
  - **Requirements of 4.8 million tons of rice** production annually in S. Korea
  - Current Rice production(2013): 4 million tons
- ➔ **Additional demands for 800,000 tons** of rice each year



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

**Food Policy  
Projects  
for unification**

## • Plan for self-sufficiency in soybean

### • Traditional Korean diet based on rice and soybean dishes

- Soybean sprouts, tofu, soybean paste soup, etc.

**➔ Need to self-sufficiency of rice and soybean**

### • Self-sufficiency of soybean in S. Korea :

- 1990 (60%) → 2013 (29.1%)

### • N. Korea is suitable for production of soybean :

- Geography of N. Korea is mostly mountainous, and wide field area
- Need of conversion of corn field into soybean field.



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## • Improve self-sufficiency of animal feeds

- Self-sufficiency of animal feeds in S. Korea (2009)

- Feed grains: usage (8.8 million tons), self-sufficiency 2.1%

**➔ Main reason of decline in self-sufficiency of foods in S. Korea**

- **Limit of animal population** per farmland area
- Development of compulsory **self-sufficiency of animal feeds** to a certain level
- Reasonable **licensing system** for livestock industry



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

Food Policy  
Projects  
for unification

## ● Cooperation of fishery between two Koreas

- **Joint fishing operation** in international waters
- **Support** to fishing vessel and materials
- **Investment** from S. Korean capital in **aquaculture industry** in N. Korea
- Joint propulsion of **superior species** and **fishing technology development** for higher productivity of marine products
- **Cooperation:** aquaculture industry, technology, and human resources



## Index

Food  
Situation

N. Korea's  
Food  
Production

Food Demand:  
sudden  
unification

Fishery  
Products

Food  
Industry

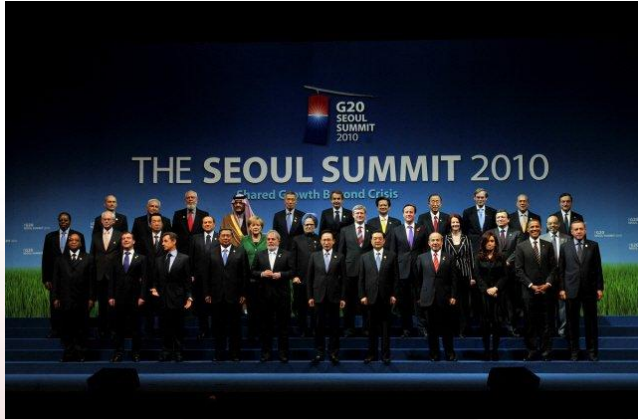
Food Policy  
Projects  
for unification

- Develop food industry for security of food in case of an emergency

- Enhancement of **national competitiveness** of food industry
- A plan for **balanced development** of food industry in two Koreas
- Need for **transport systems** along the major ports in N. Korea



## Amazing Korea in Half Century



Host Country of G20



6<sup>th</sup> Sports Grand Slam



Beneficiary to Donor



K-pop



\$1 Trillion Trade



KOREA UNIVERSITY



Thank you for listening