

Global Food Crisis and Korean Preparedness (UKC2012, August 9, LA, USA)

Thank you Chairman, It is my great pleasure to talk about the global food crisis and Korean preparedness with you at the US-Korea Conference 2012.

The World Food Summit of 1996 defined food security as existing "when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life."

Food security has three components. Food availability which is food production and food supply, Food access representing purchasing power and food price, and food use determined by the knowledge on nutrition, and food safety including water hygiene.

There have been some disputes on global food crisis, namely,

Is world food production sufficient to feed world population? The global grain production amounts about 2.5 billion tons, and it is sufficient to feed 7 billion of world population. But rich country people are overeating, while the poor countries are starving. So it is a matter of distribution.

Then will it be sufficient in the future? There are two controversial opinions. Experts in food exporting countries are more optimistic, saying there will be no food shortage in the future due to the biotechnology development and more investment on food production. On the other hand, International organizations like UN FAO and food importing countries worry about the food shortage and food price hike in the future. I will discuss this matter more in detail later.

Another question is "Is national food self-sufficiency meaningful in the globalized world?" Many famous economists in the Western society persuaded the developing countries about 'comparative advantage theory' – teaching to produce more non-food items like coffee, cacao, sugarcane, and even industrial products

what they can produce easily, and to import food by trading. Many developing countries followed this, but they are now suffering from the food price hike.

Then is globalization helpful for the countries of food shortage?

According to FAO Annual Food Outlook Reports, the number of undernourished people in the world increased sharply after WTO in 1995, and reached to over 1 billion people in 2009. Most of them are in Asia and Pacific region and Sub-Saharan African region.

After the trade liberalization under WTO, uneven distribution of food is aggravated, food production infra-structure of developing countries are disrupted, the price decision power of food supplier and the control of food market by a few major companies and power countries are more strengthened.

There are not many countries who can export grain. They are United State, Canada, Argentine, France, Russia, and Australia. Most of other countries are net grain importers. Especially Korea and Japan like Saudi Arabia import most of their food from outside.

In 2007, the grain price of world market increased 2-3 times, triggered by corn price, which jumped up mainly by the bio-energy production using corn in the US.

The rice price increased also, long grain rice 3 times, and medium short grain 2.5 times reaching to over 1,000US\$/ton. By this price hike, more than 30 countries in the world had riots by the hungry people, and some regimes collapsed. Many people asserted this as a temporary price fluctuation. But it was not.

The prices went slightly down by the 2008 world economic crisis triggered by the Lehman Brothers Bankruptcy, but kept continuously high up to today due to the often and wide spread weather disasters in Russia, China, Australia, and recently by the drought in the US.

Causes of future global food crisis are many, but I point out here the most important 5 aspects. First, the global warming and climate change. Experts are warning that the global average temperature will be increased 2-3 C by 2050, if we do not reduce carbon dioxide emission drastically. World grain production is estimated to be reduced to 0.6-0.9% by 2080, when the population becomes almost double. Northern countries like Canada and Russia may have increase in grain production, but most of southern countries, especially, Southern Asian countries will have ca. 20% reduction in grain production by the global warming.

Secondly, as I mentioned earlier, bioenergy production competes with human food. By the year of 2025, 3-4% of world food energy produced will be used for biofuel production. It is an enormous amount.

Thirdly, the rapid increase in animal food consumption in newly industrialized countries, especially, China and India, requires large amount of feed grains. If 1.4 billion people in China, and 1.2 billion in India start to eat meat and milk as much as we eat today, they will sweep away all the grains in the world market. This is the main reason that grain price will keep high in the future.

Most of scientists expect biotechnology will be a main tool to alleviate future global food crisis. However, consumer boycott and trade barrier on GM food retard the use of biotechnology for food production.

With the gloomy future projection on world food situation, the grain exporting countries tend to expand their grain reservoir, and take banning of grain export; resulting food nationalism prevail.

There are many other causes for future global food crisis, including continuing

escalation of fossil fuel price, wide-spreading of animal diseases like food and mouth disease in Korea last year, market disruption by hedge funds, and etc.

In this world food situation, what about Korean food situation?

The grain self-sufficiency decreased drastically since 1980s until 1995 and it is now around 26%. The total food self-sufficiency shown as energy supply is now about 50%.

In 1999, Asia Productivity Organization workshop on International trade and food security was held in Tokyo, Japan. Representatives from about 30 Asian countries got together and talk about the impact of trade liberalization on food security situation in different countries.

In this meeting I could collect data on the changes in grain self-sufficiency of different countries. During the period of UR negotiation, England and Germany, who were traditionally grain importing countries, achieved grain self-sufficiency. Japan which had already 30% level of grain self-sufficiency tried hard to keep the level. However, Korea – it kept going down from 56% in 1980, 48% in 1985, 40% in 1990, and 28% in 1995, when WTO was launched. Korea did not prepare anything at all for coming trade liberalization after WTO.

After WTO, the grain production in Korea was reduced from 7 million tons to 5 million tons, and the grain import increased from 13 million tons to 18 million tons. Today, Korea produces 500 million tons of grain, but imports 15 million tons.

But most of the imported grains are used for feed. In case of rice, it is mostly used for food. But for wheat, half of the national supply is used for feed. And 80%

of corn, and 70% of soybean are used for feedstuff.

Although rice is self-sufficient, the consumption of rice decreases sharply. In 1980, the per capita rice consumption was 132 kg/year, but it was reduced to 74 kg in the year of 2010. Today, Korean people do not eat barley, but wheat, which is totally imported, is consumed as much as the half amount of the rice consumption.

A rapid increase in animal food consumption took place in the years of 1980s. In 1980, Korean people had in average 1kg food a day, and animal food was around 10% of it. But in 1990 in 10 years, the animal food consumption was doubled. In addition, from 2000 year, the average amount of daily consumption increased 30%, 1.3kg food intake per person a day, and the animal food intake remains over 20%. Recently, both the amount of food intake and animal food portion are reduced slightly, mainly due to the people's awareness on the adverse effect of over-eating and high animal food consumption.

Between 1980 and 1986, when the rapid increase in animal food consumption took place, the total number of patients registered in Korean medical insurance increased 1.8 times, while that of cancer patients rose 2.3 times, diabetes 5.3 times, high blood pressure 2.6 times, and heart disease 3.3 times.

The traditional Korean diet composed of energy from carbohydrate 75%, from protein 15% and fat 10%. However, the ratio changed drastically in recent years, and fat energy has been increased to over 20%. It is mainly due to the increase in meat and milk consumption.

The obesity ratio of Korean adults was 20% in 1995, but it increased to 33% in

2008. The adult men's obesity is more serious, 38%, than women who are more concern on over-weight and practice diet.

The changes in the causes of death of Korean from 1989 for 20 years shows that circulatory diseases decreased 32%, but cancer increased 33%, especially, breast cancer and colon cancer increased 2.4 times and 3.7 times, respectively. Diabetes increased 2 times. So we are importing huge amount of grain from outside, feed them to animal and produce large amount of excretions polluting soil and water, and by eating large amount of animal food, suffer from degenerative diseases requiring massive medical costs. This is really an undesirable vicious circle.

Food waste is also problematic. The energy supply calculated from the national food balance sheet exceeded gradually the energy consumption determined by the national food consumption survey since 1970s. The difference between supplied energy and consumed energy is considered as waste. Since 1990, the gap, or the food waste, has been as high as 30% of the supplied energy.

The food safety concern of Korean consumers is very high.

A special situation in Korea is that although food security is very weak, the demand for food safety is very high. It is due to the frequent food safety incidences, mistrust for government authorities, irresponsible action of some consumer groups and news media, and also the passive response of scientific circles on this issue.

Food safety and food security is like the two faces of a coin. They are mutually colliding and complementing. When food is in shortage, there is no room for demanding food safety. It was in the 1960s situation in Korea. On the other hand,

when food is not safe, a pile of food is no use. This is the present situation in Korea. Most people believe that food is not safe. When food safety level is high, food availability goes down and the price goes up. Therefore, it is needed to have a social consensus to harmonize food safety and food security.

In 2009, the IUFoST-Japan Symposium on food safety and food security was held in Nagoya, Japan.

The food safety and security in Japan, in China, in Korea and in Canada were presented.

In the presentation, I mentioned about four Korean dilemmas.

First, grain self-sufficiency below 30% - Does Korean government take this situation seriously as crisis and willing to improve it? Unfortunately the answer is no. Nobody thinks about food crisis. OECD warns Korea will be the most vulnerable nation in the world in future global food crisis, but there is no national level response on this issue.

Second, Rice market will be opened in 2015, as the compulsory rice import reaches to almost 400,000tons per year under the Minimum Market Access approach by WTO. Then, is Korean rice competitive to the imported rice?

No one can mention this issue. If he does, he will be blamed for advocating rice market opening by the Farmer's Union in Korea.

Third, Non-GM crops are disappearing from the world market – Are Koreans ready to consume GM food?

No, the consumer attitude toward GM food is very negative. Some consumer groups continuously educate people the GM foods as unsafe, but the government does not take any action against them.

Last, Ever-increasing constrains on food industries – Is Korean food chain sound and responsible for national food supply? No. The food industries are unjustly controlled by politicians and skewed public opinion. The role of food industry as major food supplier ensuring national food security is largely disregarded.

Last year, the Ministry of Food, Agriculture, Forestry and Fisheries amended their original goal for food self-sufficiency which had allowed let it went down. The goal for grain self-sufficiency in 2015 changed from 25% to 30%. The food sovereignty, newly included, was planned to increase from 27.1% in 2010 to 55% in 2015 by expanding over-seas grain business and foreign country farming. However, there appears no concrete plan to achieve these goals.

Korea should take consideration of the food situation in North Korea, where the majority of people are suffering from starvation, in order to prepare for the unification of Korean Peninsula. The average energy intake of North Korean is estimated to be 1,600kcal/day only.

An anthropological evaluation of the 60 years division of Korean peninsula revealed that both sides have extraordinary problems. Over-eating and food waste which cause obesity and degenerative diseases and low food self-sufficiency are the major social problem in South Korea, while in North Korea people are mostly undernourished and tuberculosis prevails. Unification of Korean peninsula means not only political issue, but an opportunity to restructure the food and nutritional situation in Korea to improve the health and welfare of the people..

An optimal food consumption model of Korean was suggested from the traditional Korean food pattern. The optimal energy intake should be 2,000-2,500kcal, and protein intake 80-90g/day, where animal protein constitutes 20-

30%. The optimal energy composition is 75% from carbohydrate, 15% from protein, and 10% from fat. The food consumption pattern of South Korean in 1980 is very similar to this model. In order to achieve this pattern, South Korean should increase their rice consumption two times of that of today, reduce animal food intake half of today, and reduce the food intake 30% to 1 kg/person/day. By doing this the grain self-sufficiency of Korea can be restored to around 50% level.

Korea Food Security Research foundation organized a FOOD ACTION Movement, and published a booklet "Why and How to achieve food self-sufficiency in Korea".

The Movement suggests 10 action plan, Eat fresh and local food for health, Eat breakfast for health and vitality, Economize food and reduce waste, Grow vegetables at home and garden, and Cultivate idle land and double cropping,

Produce top-rice of best quality, Globalize Korean food of high quality and safety, Support and up-bring food industry as the major food supplier, Keep bio-resources and sea area for sustainable food production, and Create new agricultural and fishery societies as the root of people's life.

This slide shows the launching of the movement on March 30, 2011.

We adopted a declaration of Food Action Movement.

,which is similar to the action plan mentioned earlier.

Many people got together,

Among others, Minister Jung-Bok Yu of MFAFF, former-president Il-Sik Hong of Korea University, Presidential Advisor Prof. Hyun-Gu Lee, Prof. Tai-Wan Kwon, President of Korea Food Industries Association Mr. In-Ku Park, Nong-Hyub President Duk-Su Lee, and Chairman of Dae-Sun Flour Mill Company Mr. Kwan-Hoe Park.

Korea Food Security Research Foundation is an NGO supported by volunteers who want to educate people and advocate the importance of food sovereignty in Korea. We are collecting information and reports related to food security in our homepage and share with others.

Thank you very much for your attention.