Food Security: The Dilemma of High Income Food : Importing Countries in East Asia

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(Research Note 1)

Food Security: The Dilemma of High Income Food Importing Countries in East Asia

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Abstract

Recent turmoil in the international commodity markets has revealed that the world is not food secured yet. Calls for higher food self-sufficiency have mounted in high income food importing countries (HIFICs) such as Japan, Korean and Taiwan (JKT). However, governments have limited means to respond. The WTO is demanding further policy reforms in agriculture. High protection on rice, the last resort to food security in JKT, is being challenged while domestic production capacity is decaying due to aging farmers and reduced farmland. Consumers are ambivalent and continue to buy imported food. This note attempts to illustrate this dilemma, by highlighting the nature and specific problems of food security and policy reforms in JKT.

Key words : Food Security, Policy Reform, Food Self-Sufficiency, East Asia

1. Food Security and Policy Reform

Global commodity markets have been in turmoil over the last two years, with a sudden upsurge and nosedive in prices. Food is no exception. After decades of decline, real term prices of agricultural commodities started modest upward moves in the early 2000s. The trend turned into a surge in 2007 and hit a record high in March-July 2008. World representative prices climbed to over US$400 for wheat and almost US$1000 for rice, which were 2.5–3 times higher than the levels of two years earlier. The situation resembles the early 1970s when the world food crisis coincided with the first oil shock. Some people argue that the situation may become even worse because a paradigm shift is advancing in the world food market, due to the strong food demand in developing countries and the emergence of a huge demand for bio-fuels.

The low income food countries have been the most adversely affected. With limited currency reserves, they simply cannot afford the snowballing bills for food imports. Poor households in these countries, whose Engel's coefficients are 70–80%, can hardly make ends meet under the doubled food prices. High food prices have triggered riots in a number of food importing countries in Asia and Africa. It has been clear that food security is challenged there at both the household and national levels. G8 leaders gathered in Toyako, Japan in July 2008 and released a statement on global food security[1] which proposed extensive measures to tackle world food insecurity problems.

Anxiety about national food security has increased in HIFICs such as Japan as well. Many people including consumers and the mass media have referred to the need for higher food self-sufficiency (FSS) because they have felt that the national food security is at stake. However, their food security concerns seem to be somewhat different from those in low income countries. Policy makers in HIFICs are trapped in a dilemma between food security and policy reform.

(1) Transformation of the food security concept

Contrary to the general perception, the term 'food security' has a short history in the interna-

1 G8 Leaders Statement on Global Food Security, 8 July 2008

tional scene. It came to be well-known only in 1973 when the United Nations was preparing for the World Food Conference. In the 1960s or before, the world community paid little attention to global food security. Food surpluses were major agricultural problems in North America, Europe and even Japan. But the "world food crisis" in the early 1970s reminded world leaders that global food availability should not be taken for granted.

Food security was defined in the World Food Conference as "*availability at all times of adequate world food supplies of basic food stuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices*" (UN1975). The central concern was the supply side: insufficient production and stock levels and unstable markets[2]. This supply side definition reflected the general perceptions that the world would have greater food security if production grew faster and stocks recovered to adequate levels, say 17–18% of annual consumption. Almost all countries in the world promoted domestic food production in the latter half of the 1970s. At this juncture, there was no divergence in views on food security between the developing and the developed world.

The primary focus of food security, however, swung to the demand side in the 1980s when excessive support to agriculture in developed countries caused a huge food surplus and the Green Revolution enabled developing countries to be more food self-sufficient. It appeared that supply-side food security risks drastically fell especially for HIFICs. In developed countries, policy targets shifted to reduction in agricultural supports i.e. policy reforms rather than production promotion or food security.

However, hundreds of millions of people were still starving in the developing countries, despite an abundant food supply even at national levels. The reason was deprivation of access to food by the poor due to lack of 'entitlement'[3], in short, poverty. Food security was redefined as "*access of all people at all times to enough food for an active, healthy life*" (FAO 1983). A World Bank report titled 'Poverty and Hunger' concluded that poverty was a root cause of hunger (WB, 1986). Food security has therefore turned into a development issue - namely, how to ensure access to food through poverty reduction and economic growth in developing countries.

In the 1990s the concept further evolved along the same direction and became more individualistic. The 1996 World Food Summit defined food security as "*at all levels from individual to global, physical and economic access to sufficient, safe and nutritious food and food preferences*...." (FAO, 1996). This policy now covers all dimensions of access to food, not only quantity but also quality and even preferences. The chronic food insecurity of poor households, rather than transitory national security, is highlighted. The level of food insecurity is represented by the number of undernourished people rather than the world cereal stock levels. The millennium goals of the UN pledge to reduce the ratio of world hunger to half by 2015. The problem for the HIFICs is that the anxiety about supply side risks felt by HIFICs has been largely neglected.

(2) Agricultural Policy Reform and Food Security.

As discussed above, the major policy targets in developed countries shifted from food security to agricultural policy reforms in the 1980s when the food surplus became unsustainable. In 1982 the OECD Ministerial Council asked the secretariat to develop estimates of the "sources of assistance to agriculture" and a method for assessing the impact of the reduction in assistance. A report submitted in 1987 revealed that excessive domestic support of over US$ 250 billion equivalent was the root cause of multiple troubles in the

2 World grain production fell by 3.5% during 1972–73 and the USSR abruptly emerged as a giant grain importer. The US announced in 1973 an export embargo of soybeans and cottonseeds and several other exporters followed, which heightened FS concerns in food importing countries such as Japan.

3 The entitlement approach was developed by Amartya Sen in the late 1970s based on his observations on several famines occurred in the 1940s and 1970s. (See Sen 1981)

OECD agriculture[4]. The Ministerial Council requested a progressive and concerted reduction of agricultural support in member countries by switching from price support to income support, i.e. 'decoupling'. The Punta del Este declaration of the GATT endorsed this policy by asking '*bring all measures affecting import access and export competition under strengthened and more operationally effective GATT rules and disciplines*'.

The agricultural sector has always been one of the most controversial areas in the GATT/WTO because almost all member countries including food exporters provide a wide range of support to agriculture. They have good reasons: agriculture is a declining industry, high fluctuations in prices and incomes, positive externalities, and food security. Perhaps for these reasons, the GATT 1947 (Original GATT) was lax against agricultural support. Basic GATT disciplines such as prohibition of quantitative import restrictions, export subsidies or domestic subsidies were largely exempted for agricultural products. Multilateral trade negotiations attempted before 1980 had a limited impact on the overall agricultural protection.

The GATT Uruguay Round concluded and established the World Trade Organization in 1994. The Agreement on Agriculture (AoA) was signed as a part of a comprehensive package. The major commitments under the AoA stretched far beyond the traditional GATT territories, covering not only market access but also domestic support and export competition. The inclusion of domestic support and the creation of a clear dispute settlement mechanism in the WTO have made it more difficult for the HIFDCs to protect domestic agriculture for food security reasons. Consideration of food security was mentioned in the preamble of the AoA as one of the "non-trade concerns", but no ensuing clauses addressed this issue. It was simply lip service.

The relationship between agricultural policy reform and food security has been debated intensively between food importers and exporters. Views and interests have also differed between the developing and developed countries. Importers are worried that policy reform will accelerate the decline in domestic agriculture and reduce nation's food supply capacity. They wish to retain flexibility in the agricultural policy reforms in order to protect key food sectors, including food staples because the current WTO rules are lopsided and powerless in checking the selfish acts of exporters, especially export bans. Exporters insist that trade liberalization will enhance national food security because the risks are dispersed and economic growth will augment the capacity to import food.

The latter view is well represented by the following speech by Mr. Supachai, Director General of the WTO at that time[5]:

"A sustainable domestic food supply cannot be ensured by each government acting individually.... The goal of self-sufficiency is illusory in today's world where a vast range of inputs constitute the full production equation. Food security is best achieved in an economically integrated and politically interdependent world ... The WTO can contribute to improving food security by providing the opportunity to raise income levels through economic growth."

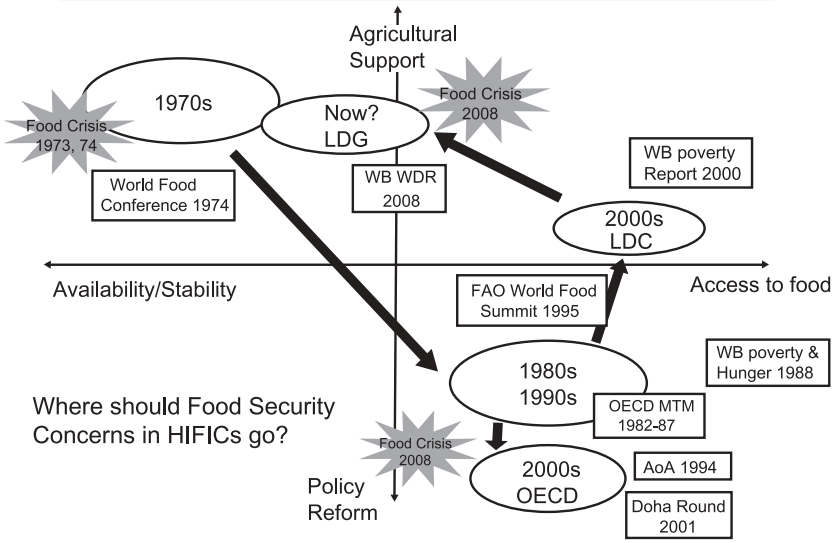
Mr. Supachai did not deny the possible negative impact of agricultural policy reforms on the food security of food importing developing countries. But he insists that this is a misperception because the WTO offers many special treatments[6] for developing countries. It is clear that the WTO pays little attention to and has nothing to do with the food security concerns of importers, in particular, HIFICs.

4 OECD, 1987

5 Speech in 2002 at the time of World Food Summit- five year later

6 They include, special and differential treatment (SDT) provisions, access to Sensitive Products, Special Safeguard Mechanisms, regarding development programs as Green Box under the AoA.

Chart 1. Agricultural Policy Reform and Food Security



The observations of this section may be summarized in the chart 1. The food security concept and related major concerns have shifted over time along the changes in world food situation. The chart also suggests that views of the world community on agricultural policy reform and food security have been changing as well. Food security problems in developing countries are now drawing more attention in the world communities. The only area unattended is the anxiety of food security felt by HIFICs.

2. Food Security in HIFICs

The world community has seldom addressed the food security concerns of HIFICs. One reason is that the HIFICs account for a minority of the world population. Only few countries such as Switzerland, Japan, Korea Norway and Singapore fall in this category. However, there are more fundamental reasons. Citizens of HIFICs usually enjoy a sufficient, diversified, nutritious and quality diet. HIFICs have capacity to increase national food production (except Singapore) by mobilizing existing resources and technologies if they so wish. Under normal circumstances, they can import as much food as they need with their export earnings and currency reserves. Modern history reveals that except during war or civil strife, no rich nations have suffered from starvation. Why are they so bothered about food security?

The answer to that question is "There can be several risks that could threaten the stable supply of food to them under unusual circumstances". By nature, the concept of 'security' rests on the need to protect ourselves from unusual mishaps which may cause fatal damage to our life or assets. There is little use of discussing about the security for normal times. HIFICs would face following supply side risks:

- Possible regional conflicts or civil strives
- Food embargoes by exporters
- Reduction or disappearance of exporters stocks
- Massive crop failures in and outside countries
- Disruptions in shipping and transport system
- Sudden emergence of strong competitors in the world market

There are numerous factors affecting food security in HIFICs. First, they have no specific demand side risks (i.e. lack of purchasing power).

Table 1. Food import capacity of JKT

	Food import capacity	1985	1995	2005
Japan	Reserve/cereal import	9	36	145
	Reserve/food import	3	7	29
	Total export/food import	16	16	20
Korea	Reserve/cereal import	3	17	94
	Reserve/food import	2	7	28
	Total export/food import	20	25	38
Taiwan	Reserve/cereal import	n.a.	n.a.	n.a.
	Reserve/food import		16	32
	Total export/food import		18	28

Source: WB, World Development Indicators online, October, 2008. ADB statistical database system, October. 2008
Note: Those figures have been completed as the ratio of the total reserves to the value of cereal or food imports

The Table 1 shows that export earnings and foreign currency reserves allow JKT to buy 20–30 times more food than they normally import. If they need cereals only, they can buy 100 times more they now import. Second, most of their risks are of a 'transitory' rather than 'chronic' nature. Food shortages arising from these risks would not last for many years.

Third, these risks are associated with a degree of food import dependence, i.e. food self-sufficiency. The higher the degree of import dependence, the higher risks they are exposed to. This is why HIFICs are sensitive to declining food self-sufficiency. Forth, food security problems in HIFICs are more social and political issues rather than economic or physical ones. The chances that these risks actually damage people are much less in HIFICs than in poor developing countries.

Nevertheless, the general public holds a vague anxiety about food security. Their anxiety has some basis. First; high purchasing power and transitory risks do not necessarily guarantee food security for HIFICs in unusual cases. As proven recently and during the world food crisis in the 1970s, exporters can ban food exports to assure sufficient supply in their own country or to prevent domestic inflation. Modern democracy forces governments to act selfishly to protect

Table 2. Food self sufficiency rates of JKT
(%, measured at original dietary energy supply)

	1970	1980	1990	2000	2005
Japan	60	53	48	40	40
Korea	80	70	63	51	47
Taiwan			46	36	31

Source: Ministry of Agriculture, Forestry and Fisheries (MAFF), Japan. Korean Rural Economic Institute (KREI), Korea. Council of Agriculture (COA), Executive Yuan, Taiwan

"our people first". If exporters stop food exports, foreign currency reserves are worthless for food imports. People cannot live for many months without food no matter how transitory the bans are. The risk is particularly high if food self-sufficiency is low. WTO/GATT does not help in this regard. HIFICs are also vulnerable even if disruptions are short-lived because their domestic food supply chains have developed sophisticated networks of tiny subdivided units including households. Each unit has little food stocks and little knowledge on what is happening to the entire supply system. Panic buying and hoarding which aggravate the situation may happen everywhere. In a modern democratic country, policy makers and politicians can not overlook the people's anxiety. Food security becomes an important social and policy target in HIFICs.

Table 3. Self sufficiency rates of cereals JKT

		1960	1970	1980	1990	2000	2008
Cereals Total	Japan	77	46	28	29	28	27
	Korea	87	68	45	41	33	28
	Taiwan	86	61	37	26	19	19
Corn	Japan	6	1	0	0	0	0
	Korea	39	19	6	2	1	1
	Taiwan	95	9	4	7	1	3
Rice	Japan	98	99	88	100	104	97
	Korea	98	80	74	102	103	99
	Taiwan	101	101	115	104	112	94
Wheat	Japan	37	9	10	16	11	14
	Korea	31	12	4	0	0	0
	Taiwan	13	1	0	0	0	0

Source: same as Table 2

JKT are typical HIFICs. They have common backgrounds with regard to food security. As Table 2 and Table 3 shows, their self sufficiency rates (SSR) of food measured as the original dietary calorie supply are less than 50% in these years. Their SSRs for grains are much lower, less than 30% in 2008. SSRs of food have been declining over many decades and the trend does not seem to be changing. Domestic production of maize, wheat and oilseeds has almost disappeared from these countries. Wheat and soybean production in Japan rebounded in the 1980 but it was due to heavy assistance under paddy diversion programs.

In a sense this decline is a consequence of their 'rational' choices in the past. With limited farmland areas and high population density, they have chosen a similar course for economic development - export oriented growth centered upon industrial goods. This development strategy has been successful as a whole but it is accompanied by negative side effects, i.e., making the agriculture sector less and less competitive. The theory of comparative advantage has been exposed. The production costs of farm products measured by international currencies have risen even though agricultural labor productivity has improved substantially[7].

Table 4. Percentage share of rice in dietary nutrition supply

	1961	1980	2003
	Energy		
Japan	47	29	22
Korea	50	50	28
Taiwan		30	16
	Protein		
Japan	18	16	12
Korea	33	33	17
Taiwan		18	9

Source: FAO food balance sheet and COA, Food supply utilization table
Note: Taiwan's figures are for 1985 and 2005

The disadvantages of producing traditional upland crops in a land scarce country are evident. Policy makers in JKT decided decades ago to let the market forces function for upland crops and recommended farmers to produce more fruits, vegetables, and livestock products for which the demand has been growing[8]. Imports of maize,

7 Labor productivity measured at agricultural output per person engaged in agriculture has increased at 5.5% per year in Korea and 5.0% in Japan between 1962–2002

8 For example, Agricultural Basic Low 1961, Japan recommended the 'selective expansion' of agricultural production.

wheat and barley, soybeans and rapeseeds increased rapidly throughout the 1960s in Japan and the 1990s in Korea as a result of either market opening measures or the expansion of quotas. This policy reform was rational because it could respond not only the pressure of exporters but also meet the demand of domestic livestock producers who needed low cost feed. However, it has had side-effects, most notably a declining food self sufficiency.

The core of food security policy in JKT is a full self sufficiency of rice, their staple food. Rice has had and still has a symbolic status in JKT. It has been the single largest source of dietary energy and protein (Table 4). Rice provided 30–50 % of dietary energy and 16–33% of protein 30 years ago. Even in recent years it accounts for about 16–28% in energy and 9–17% in protein supply. It is little doubt that most Japanese, Korean, and Taiwanese have a tendency of feeling food-secured if rice supply is first assured.

Therefore, rice has long been subject to full or partial state control. Even now, distribution, trade and prices of rice are directly or indirectly guided by the government. All three countries maintain state trading for rice to stabilize domestic markets. High specific duties under tariff quotas virtually prohibit commercial rice imports except those for minimum access commitments. Since the SSRs of other major food commodities are falling, rice is the last resort in their food security policies.

3. Dilemma of policy makers

(1) Rice centered food security

Food security in JKT relies exclusively on rice. However, the heavy reliance on rice for food security and virtual isolation of rice market from international competition is not without social costs. During high economic growth periods, producer prices of rice had to be raised in parallel with rising urban wages and input costs. Price gaps with the international market widened quickly during the 1970s - 1990s[9]. Partly due to currency appreciation and quality differences, rice prices in JKT were 5–10 times higher than international rice prices. This resulted in overproduction and increased financial burdens for the governments.

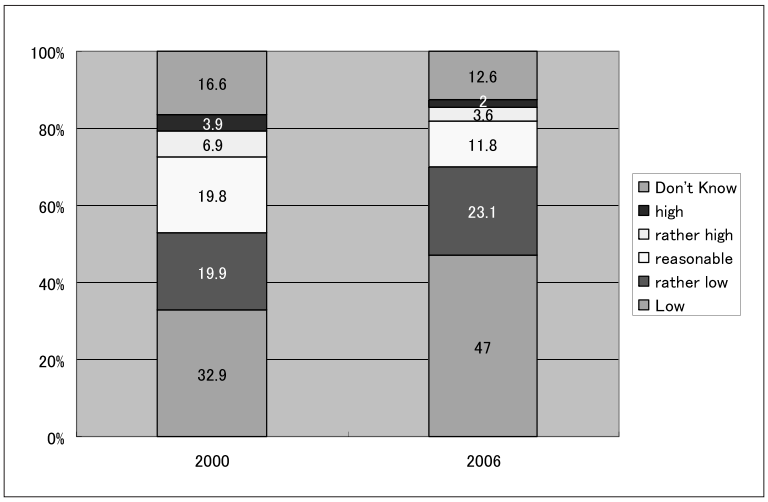
Japan had to resort to rice diversion programs as early as 1971 and disposed of 7 million tons of surplus rice for feed and exports. Taiwan started the Riceland Diversion Program in 1984 as the discounted sales of surplus rice on the international market were opposed by the US. Diversion programs encouraged production of low SSR crops but required additional subsidies. Though reforms have been made many times, these programs have had to be continued for more than two to three decades in one form or another.

Negotiations under the WTO/GATT have posed real challenges to food security policies in JKT. During the Uruguay Round, Japan and Korea were asked to eliminate all quantitative import controls and convert them into tariffs. Taiwan was requested to do the same during the entry negotiations. As rice is the last resort for their national food security and rural viability, JKT had no other options but to maintain tight control on rice in return for accepting minimum access commitments. The minimum access agreed was 4% for Japan and 1% for Korea to be increased to 8% and 4% until 1999. This was a painful deal because domestic rice consumption was declining every year. In 1999 Japan accepted 'tariffication' on rice and set a tariff quota. Taiwan had to accept both a minimum access of 8% equivalent and tariffication at the time of WTO accession in 2002.

However, no political parties would allow foreign rice to be freely imported at low prices. Consumers also support the policy of full self-sufficiency for rice. At the same time, JKT cannot step out of the negotiations because their industrial sectors are one of largest beneficiaries of the

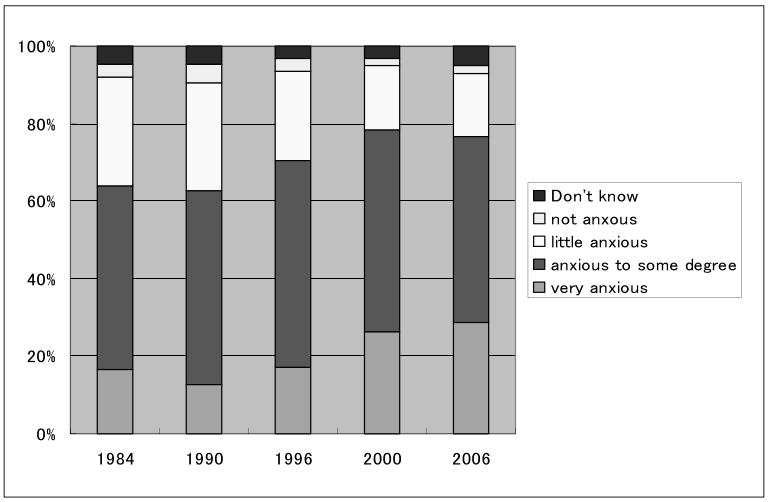
9 WTO trade review reports and other sources indicate that producer prices of rice in JKT have been 5–10 times higher than international market prices (WTO 2006).

Chart 2. Perceptions on current SSR



Source: Cabinet Office, Special opinion survey on food supply, Dec. 2006

Chart 3. Prospect of Food supply in Japan
Public Opinion Survey



Source: Cabinet Office, Special opinion survey on food supply, Dec. 2006

open market system in the world. Policy makers have been in dilemma.

(2) New seeds of Food Security concerns

The dilemma of policy makers on food security is being amplified by two other factors: ambivalent consumers and weakening domestic supply capacity.

Having witnessed the recent turmoil in the international commodity markets and the health concerns caused by toxic food[10], consumers in JKT are increasingly cautious about food imports. Recent Japanese opinion surveys conducted by the Cabinet Office indicate that consumers would

10 Typical cases include the food poisoning caused by imported frozen 'gyoza' (dampling) in January 2008.

buy local products even if prices are higher than those of imported products. Approximately 70% of respondents in the 2006 survey think that current food SSR is low or rather low (Chart 2). Nearly 80% of correspondents are anxious about food supply prospects in Japan (Chart 3). In the 2000 survey, these percentages were much lower. The signals are clear. Consumers are therefore becoming increasingly concerned about food security and safety.

Saying is one thing but practicing is another. Despite their willingness to buy more local food, food imports have been steadily increasing. Despite their concerns about food shortage, huge amounts of food are dumped as waste. It is estimated that nearly 30% of the total food supply is wasted either in the household or in the food industry in Japan (Ministry of Environment, web page). A survey of the Ministry of Health and Labor revealed that 27% of Japanese men and 22% of women were overweight in 2004 (MHLW 2005). Consumers are often ambivalent, which makes the tasks of policy makers more difficult.

But perhaps the most serious problem in JKT is a weakening domestic food production capacity. The number of full-time farmers in Japan which totaled over 700,000 in 1970 has declined to less than 250,000 in 2005. Farmers are getting older and older. About 60% of farmers are now over 65 years old, and the rate is increasing each year. Arable land area has decreased by 1.4 million hectares from 6.1 million in 1960. Declining crop intensity which is below 100% now shows no signs of recovery. Rural village communities are disappearing because of aging and a decline in family members. Korea and Taiwan are following the trend observed in Japan. The number of Korean farm households has declined by 50% since the mid 1960s. Its farmland area have decreased by 0.5 million hectares during the same period. Taiwan's farmers are also quickly aging. These facts indicate that national capacity of producing food has already been substantially undermined. Policy makers have made rational choices for their countries in the past. Their economies have prospered as industrial and urban sectors flourished. However, the rural sectors are withering and the food supply capacity is diminishing. Policy makers are facing a dilemma.

4. Policy implications

Recent turmoil in the international commodity market has revealed that the world market is not necessarily reliable and friendly to importing countries even now. A sudden upsurge in food prices and export bans has recalled the food security risks of consumers in JKT. However, domestic agriculture has been gradually losing its inherent food production capacity in the wake of successive policy reforms including trade liberalization. The current WTO regime does not allow them to protect staple food even for food security reasons. Consumers themselves are ambivalent. What sort of policy options do JKT have for food security?

There is no magic solution. JKT needs a series of well aligned orthodox policies to assure national food security. Initially policies must be established to prevent risks from occurring. They include increased ODA for agriculture, diversification of imports, diplomatic efforts for world peace and order etc. In this regard, closer cooperation among East Asian countries may have a special importance even if more time is required to create an East Asian Common Market[11]. Then, policies must be established to prepare for risks/emergencies. Most notable is research and development, for instance, developing crop/animal varieties which are more resilient to heat stress, drought, or pests. A stock holding policy is equally important but this may require careful attention. In JKT, well designed plans, rules and drills for emergencies are also crucial to prevent panic buying, speculation and hoarding. Finally, there must be policies to maintain or recover domestic food supply capacity. Priorities

11 See Suzuki, N. 2005.

should be given to investment in and the maintenance of the rural infrastructure, farmland and young farmers.

Lastly, it should be noted that food and agricultural policies alone cannot lead to full-fledged food security. More comprehensive and consistent national and international security policies must be pursued. Food security is best achieved when national policies on defense, energy, resources and international relations are systematically and cooperatively mobilized.

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