

Review Article

Malaysia's strategic food security approach

Tey, Y. S.

*Institute of Agricultural and Food Policy Studies, Universiti Putra Malaysia,
43400 Serdang, Selangor, Malaysia.*

Abstract: This paper is interested in exploring the interrelatedness of some accompanying policy changes and initiatives in the selected Asian countries as well as reviewing the Malaysian National Food Security Policy. Actions taken in response to the food crisis in the selected Asian countries have worked out well and produced promising outcomes from a combination of availability, accessibility, utilization, and stability aspects in food security. Malaysia weighted more on availability aspect in food security by introducing more short- and long-term policy measures for boosting paddy and rice production, particularly in Sabah and Sarawak under the National Food Security Policy. However, much of the unhappiness and disequilibrium in the local paddy and rice market were created due to irrational extensive intervention of the Miller Subsidy and Beras Nasional programmes in the nation. Many of the policy measures targeted at area expansion and productivity but it was suggested that the dominant path to achieve the targeted self-sufficiency level is through research and development at specialized and committed paddy and rice research centre. Trade oriented self-reliance approach that strategized with multiple and diversified sources of rice import was tipped to be superior of current self-sufficiency approach.

Keywords: Malaysia, food security

Introduction

There has been much work described the trigger of the food crisis (particularly rice) that kicked in after the fuel crisis and further deteriorated by the financial crisis in 2008. The latter did not only wiped off the priority to address food security issue but also turned the prospective or/and ready investment off to save the subsequent economic crisis. Such case is a norm of human's 'short memory' that tends to put the food security issue aside soon after food prices were soothed by the financial and economic crises. Although the crisis appeared to be driven by short-term shock, current food prices are still at higher levels than pre-crisis levels. The renowned fact of the higher food prices has been tipped as the end of the cheap food era.

As much as 90 per cent of rice is produced and consumed in Asia. This statement of fact has never been changed, however, the trends of shifting fundamentals, both on the supply and demand sides have been emerging. A Chatham House Report by Ambler-Edwards *et al.* (2009) warned that the global food system will come under renewed pressure from the combined effects of seven fundamental factors, namely population growth, nutrition transition, energy, land, water, labour and climate change. Some of the effects of change are already being felt. 'Business-as-usual' is likely to fail and will bring unbearable

political, social, and economic externalities, if action is not taken.

Given the importance of food security, especially of rice availability and supply in Asian countries, this paper is interested in exploring the interrelatedness of some accompanying policy changes and initiatives in the selected Asian countries as well as reviewing the Malaysian National Food Security Policy. It is imperative for policy makers to understand initiatives taken by other Asian countries in relation to Malaysian reality and their implications for the Malaysian food security and paddy and rice sector.

Quick glance at the food crisis in 2008

The volatility in rice prices as illustrated in Figure 1 presents the sequence of important events in the food crisis of 2008. The cheap rice for the past 25 years came to an end when international rice prices started to rise in 2005 and escalated into a surge in 2007 and 2008. Much to do with control on domestic rice prices and step up supplies for domestic consumption, main exporting countries – India and Vietnam introduced export restrictions back-to-back then China and Cambodia also halted exports of rice about the same period in the early of 2008. Subsequently, rice importing countries were hit by panic and resorted into 'panic buying'. Philippines – the world's largest importing country were struggling to find sources of supply and forced to purchase from

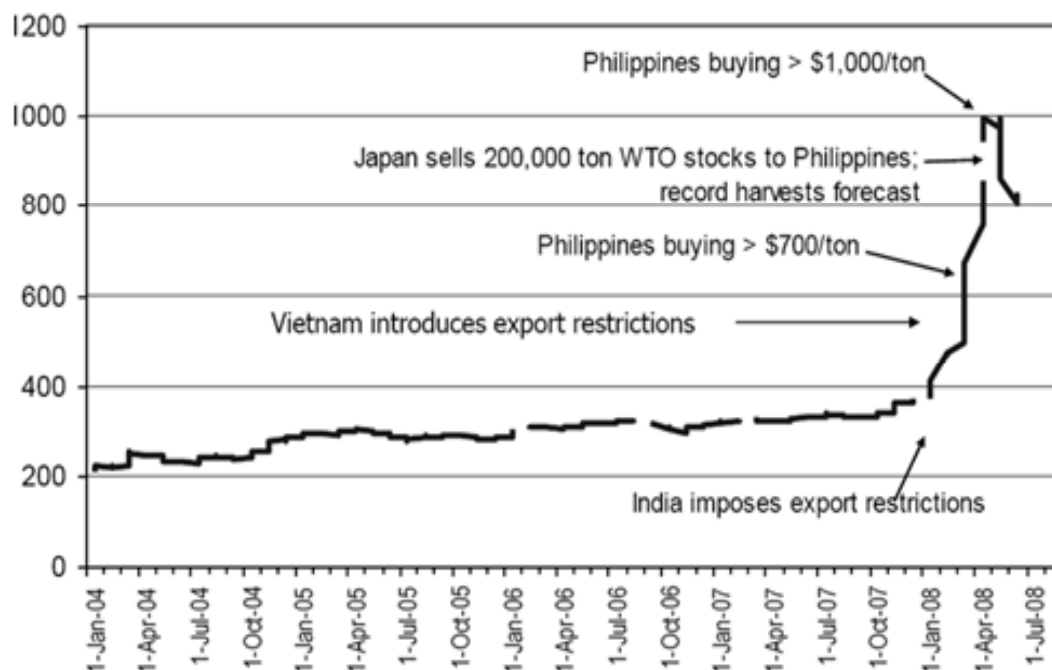


Figure 1. Rice price (US\$/MT), 2004-2008

Source: Food and Agriculture Organization of the United Nations (FAO), Agricultural Statistics, 2009.

Thailand at a price of about US\$700/ metric tonne (MT). Soon after that, many countries were alerted and fought to secure enough supplies for domestic consumption and storage. These competitions led Philippines to purchase the rice even at the peak of international rice prices (about US\$1,000/MT). Then the looming global financial crisis and economic slowdown inadvertently pushed the international rice prices down by about 40%.

Policy measures, strategies and initiatives in selected Asian countries

The food crisis required immediate and precautionary actions. The decision to impose export restrictions was just one of the step-up measures to curb domestic rice prices and supplies. More deliberately, Demeke *et al.* (2009) provide a valuable compilation of countries' response to the food security crisis. A number of Asian countries applied two, three or even four different policy measures, strategies and initiatives broadly in trade-based policy (both domestic and international trade policies), short-term production-based policy, and safety net programmes as shown in Tables 1, 2, and 3 respectively.

As defined by FAO (2006), there are main four aspects in the food security, namely availability, accessibility, utilization, and stability. Policy measures, strategies and initiatives in response to the food crisis were decided based on the aspects of food security which challenge merit most attention or investment. Subsequently, the policy measures

mentioned above can be grouped accordingly to the four aspects of the food security:

- Availability includes
 - release stock (public or imported at subsidized price),
 - suspension/reduction Value Added Tax and other taxes,
 - reduction of tariffs and customs fees on imports,
 - restricted or banned export,
 - production support programmes,
 - productive safety nets, and
 - fertilizers and seeds programmes.
- Accessibility includes
 - price control,
 - cash transfer, and
 - increase disposable income.
- Utilization includes
 - food assistance.
- Stability includes
 - price control or restricted private trade,
 - restricted or banned export, and
 - reduction of tariffs and customs fees on imports.

Beyond the doom, it is certainly not hopeless. Most of these policy measures are short-term and did produce plausible results in most countries. India, Cambodia, Vietnam, and China have again committed

Table 1. Trade-based policy measures adopted by Asian countries in response to the food crisis

Domestic market-based measures			Trade policy measures	
Release stock (public or imported at subsidized price)	Suspension/reduction Value Added Tax and other taxes	Admin. price control or restricted private trade	Reduction of tariffs and customs fees on imports	Restricted or banned export
Bangladesh	China	Bangladesh	Cambodia	Bangladesh
Cambodia	Indonesia	Malaysia*	China	Cambodia
China	Mongolia	Pakistan	Indonesia	China
India		Republic of Korea	Pakistan	India
Malaysia*		Sri Lanka	Philippines	Myanmar
Nepal			Republic of Korea	Nepal
Pakistan				Pakistan
Philippines				Vietnam
Republic of Korea				
Thailand				
Vietnam				

Source: Demeke *et al.* (2009)

Table 2. Short-term measures aimed at supporting producers and production

Non-market based production support measures			Market-based intervention
Production Support Programmes	Productive Safety Nets	Fertilizers and Seeds Programmes	
Bangladesh	Bangladesh	Pakistan	Bangladesh
China	Indonesia	Philippines	China
Indonesia	Philippines		India
Myanmar			Nepal
Pakistan			Pakistan
Republic of Korea			

Source: Demeke *et al.* (2009)

Table 3. Countries that introduced safety net programmes in response to the high food prices

Safety net (increased or introduced)		Increase disposable income
Cash transfer	Food assistance	
Bangladesh	Bangladesh	Bangladesh
China	Cambodia	Cambodia
India	India	
Indonesia	Indonesia	
Pakistan	Republic of Korea	

Source: Demeke *et al.* (2009)

themselves to international rice trade. We have also heard successful story of Indonesia in enjoying a rice surplus and started exporting rice since February 2009 (Jakarta Post, 2009). Rice net importers like Malaysia have no privilege to enjoy this success, nevertheless, are motivated to correct rice policy for the shine of tomorrows.

The Malaysian National Food Security Policy

The policy objectives and instruments in Malaysia's paddy and rice sector can be stretched back as far as the 1st Malayan Plan to the current 9th Malaysian Plan and the 1st National Agricultural Plan to 3rd National Agricultural Plan but food security has been the thrust of the policy for the sector. This prolonged policy is translated into a prominent objective to attain a reasonable self-sufficiency level (SSL) in rice which has been used as an index to food security in the country. SSL was targeted at a comfortable level of 65 per cent in the 3rd National Agricultural Plan (1998-2010) but was required to be at 86 per cent by the end of the Mid-Term Review of the 9th Malaysian Plan (2006-2010) in order to fit its production-centric vision of self-sufficiency level in most commodities for reducing deficit in trade balance.

Most of the efforts are carried out via a comprehensive set of market interventions in the form of input and output subsidies, production programmes, Guaranteed Minimum Price for paddy, Paddy Price Support, and other production-based incentives. However, at its best, SSL in rice was just 72 per cent in 2007 compared to 74 per cent in 1985 though both paddy planted area and yield were at increasing trend. In greater details, there was just a marginal increase in paddy planted area from 654,974 hectares in 1985 to 676,111 hectares in 2007 due to land competition from more profitable crops particularly oil palm. It was particularly serious in Sarawak where there was 24 per cent shrink of paddy planted area while there was 23-fold increase in palm oil planted area within the same period. This was compensated by healthy growth in yield from 3.192 MT/ha, 2.081 MT/ha, 1.335 MT/ha to 3.887 MT/ha, 3.243 MT/ha, and 1.702 MT/ha in Peninsular Malaysia, Sabah, and Sarawak respectively. In return, there was higher production but it was offset by larger population that represented larger consumption. Statistically, population grew at a faster pace of 73% from 15.68 million populations in 1985 to 27.17 million populations in 2007 on top of decreasing per capita consumption of rice where it was 103kg in 1985 and 81kg in 2007.

Therefore, the unprecedented food crisis invariably shocked the country which needed imports of rice to fill the gap between domestic

production and consumption. As recorded briefly by Demeke *et al.* (2009), Malaysia released rice stock (public or imported at subsidized price) and imposed price control at retail level. There were more efforts initiated by Malaysian government, of course, to handle the issue in short- and long-term policy measures. Amongst these was the National Food Security Policy which is directed at increasing rice production towards meeting the revised SSL target, especially in Sabah and Sarawak in short- and long-term perspectives. In more details, Table 4 presents the paddy and rice programmes in the National Food Security Policy.

The programmes in the National Food Security Policy can be distributed into the aspects of food security accordingly. It is apparent that the policy is committed to continue its reign of production-centric objective for higher self-sufficiency level by investing heavily in Sabah and Sarawak after Peninsular Malaysia has knowingly achieved its limits in terms of land suitability and availability. However, many of these well intended programmes overlooked the challenges posed by the distinctively different institutional framework and natural endowment in Sabah and Sarawak.

Due to different institutional framework in the administration of the states, funding for these programmes from the Federal Government is split into different departments instead of Ministry of Agriculture and Food Industry in Sabah and Ministry of Modernization of Agriculture in Sarawak. Such complication indeed underscores the challenge in scheduling, logistics, and execution of the programmes.

Natural endowment, on the other hand, requires serious consideration on feasibility and enormous long-term efforts on their organic and peat soils for paddy farming. The natural endowment is also the main constraint in infrastructure development which sees dropping number of farmers who received Incentive and Subsidy (a price subsidy of RM 248.10/tonne is given to farmers who sell paddy to licensed mills) further to scattered location of farms (with limited number of licensed mills) and inefficiency in transferring message of policy changes to the farmers.

Closer to the issue of food security, it was crucial to ensure availability of rice and accessibility, especially for the poor during the food crisis. The government introduced Miller Subsidy programme of RM800 per MT production of 15% broken rice (packaged as *Beras Nasional* and retailed at RM1.60-RM1.80/kg) from domestic paddy in Peninsular Malaysia at mill level for a period of 6 months from September 2008.

Table 4. Paddy and rice programmes in the National Food Security Policy

No.	Programme	Description
Availability		
1	Irrigation Infrastructure And Drainage Development	Develop new water source and increase irrigation infrastructure and drainage density to optimum level of 50m/ha
2	Irrigation Infrastructure And Drainage Maintenance	Maintain paddy field area both in granary area or non-granary area
3	Pest Control Aid	Control and reduce paddy disease due to the damage by pest. The aid is as much as RM200/ha/season
4	Additional NPK Fertilizer	Add nutrient supply through NPK fertilizer supply. The aid is as much as 3 bag @ 50kg per bag with the rate of RM400/ha
5	Land Levelling	Implement land levelling activity to improve efficiency of good agricultural practices. Rate of land levelling is as much as RM1,500/ha
6	Lime Application	Supply lime to improve soil fertility. The aid is RM850/ ha
7	Farm Mechanization	Increase number of machinery in rice cultivation
8	Incentive and Subsidy	Increase Paddy Price Subsidy and Productivity Incentive
9	Miller Subsidy	Encourage domestic millers to produce ST15 (Peninsular) and SS15 (Sabah & Sarawak)
10	Beras Nasional	Subsidized 15% broken rice and retailed at RM1.80/kg throughout Malaysia
Accessibility		
1	Beras Nasional	Subsidized 15% broken rice and retailed at RM1.80/kg throughout Malaysia
Utilization		
1	Research and Development	Promote new method of paddy cultivation to increase productivity
Stability		
1	Stockpiling	Increase stockpile level of 92,000MT to 239,000MT

Viewing that domestic rice production in Sabah and Sarawak was proportionately small in relation to total consumption, the government utilised 19,000MT of imported 5% broken rice from the stockpile and sold as *Beras Nasional* at retail price of RM1.80/kg in Sabah and Sarawak. These measures, from a perspective of economist and policy maker, are temporarily interventions made by the government to provide safety net to the nation and to bring the sector back to normal.

Yet, international rice prices went down at a faster pace after the looming of the global financial crisis and economic slowdown. Hereafter, the *Beras Nasional* programme became an unneeded luxury and led to unhappiness among different parties. Though the programme was targeted for the poor but its distribution was reportedly missing in rural regions. Relatively, wholesalers were given different and inconsistent supply of *Beras Nasional* without any valid guidelines. Millers, on Peninsular Malaysia and East Malaysia basis, reflected different issues. Given lucrative subsidy for producing *Beras Nasional*, there existed unreasonable competition in getting supply of domestic paddy and subsequently saw 10%

broken rice (SST10) disappeared in the retail market literally in Peninsular Malaysia. Millers in Sabah and Sarawak who were not included in the programme put up strong request for their eligibility. The request was granted. Then the Government renewed the subsidy programme for Peninsular Malaysia (RM750/MT) and extended the Miller Subsidy programme to Sabah (RM600/MT) and Sarawak (RM600/MT) with validity from 1 April 2009 to 30 September 2009.

Viewing that domestic supply was not sufficient for local consumption in Sabah and Sarawak, imported Vietnam 15% broken rice was sold as *Beras Nasional* while local rice was retailed at RM2.10/kg. Such difference inadvertently dampened the demand for local rice, culminating in the overhang of stocks at retail, wholesale, and mill levels (though millers were motivated to process local paddy via the Miller Subsidy programme). The well intended policy measures as a whole served its short-term purpose well but were inappropriately extended and implemented in longer-term and failed to bring the market back to normal by creating disequilibrium, disarray, and unhappiness among the market players.

The Green Revolution is a great result and

successful application of research and development (R&D). However, there has been sheer neglect on rice production investment among the countries worldwide, Malaysia included. Annual budget for R&D in paddy and rice sector allocated by the government is always not more than 5 per cent of total budget for the sector. Some quarters suggested that research in paddy and rice only constituted 10 per cent of the main agricultural research centre - Malaysian Agricultural Research and Development Institute (MARDI) along with other small and limited research activities conducted by *PadiBeras Nasional Berhad* (BERNAS), universities, agencies and private organizations. These efforts, of course, fall in bits and pieces without a proper official, concentrated, and committed rice research centre (like International Rice Research Institute) in the country.

National *Padi/Rice* Stockpile scheme was introduced in 1949 during British colonisation. Rice is used as a buffer stock to facilitate the stabilisation of prices. It came into action during and subsequent to the food crises of 1972-74. Prior to the recent increase in stockpile, BERNAS took over the social obligation – national stockpile of 92,000MT rice from the National Paddy and Rice Board (*Lembaga Padi dan Beras Negara*) in 1994. Though population growth was certain, the stockpile level was maintained at the same level ever since then. The government then realized the need for extra stockpile in response to food scare (particularly during the food crisis) and committed to a higher level of 239,000MT of rice with a distribution of 78, 12, and 10 per cents for Peninsular Malaysia, Sabah, and Sarawak respectively.

Moving forward

Arising from the discussion in previous section, it is obvious that there are a number of weaknesses in the National Food Security Policy, especially the extent of inappropriateness of short-term interventions – the Miller Subsidy and *Beras Nasional* programmes as the international rice prices have gone down to lower level. These programmes stem the alarming inconsistency in the distribution of subsidized rice and inefficiency in its delivery to the poor. The financial crisis and economic slowdown also slugged and deepened food insecurity among the unfortunate group (FAO, 2008). More feasible programmes and actual help are needed to address the issue immediately and effectively.

In longer-term, the National Food Security Policy target is to increase SSL in the country mainly attributed to an increase to 60 per cent and 70 per cent by 2010 from 30 per cent and 53 per cent SSL in Sabah and Sarawak respectively. These targets are

postulated to come from expansion of paddy farming area of 23,017 hectares in Sabah and 25,583 hectares and Sarawak on top of 2,375 hectares which to be developed as granary area in Sabah. However, there are some anecdotal evidences from the perspectives of natural endowment and institutional frameworks suggest that these targets are over ambitious. Literally, similar suggestions were made by Lamb (2009) where 10, 20, and 70 per cents of future increase in rice production will come from area expansion, intensification, and R&D respectively. These suggestions underscore the ultimate importance of R&D while many parties tend to forget that the availability of rice and other foods that served us well for decades are masterpiece of R&D that succeeded the Green Revolution. The Malaysian government could setup a rice research centre with similar funding scheme (from tax on production) like Malaysian Palm Oil Board and Malaysian Cocoa Board.

The ability to achieve SSL target as targeted in the Mid Term Review of the 9th Malaysian Plan is absolutely not likely. Coupled with the lesson in the food crisis in 2008, the renewed challenge is engaged in making consistent and viable policies and strategies for ensuring food security for the nation. Amongst many approaches, trade oriented self-reliance approach perhaps is more relevant than closed-door self-sufficiency approach in a highly integrated world market particularly that major rice exporting countries are in ASEAN. The self-reliance approach allows a country to import staple food from the world market when prices are cheaper than growing it in home country, so as to release land for more profitable or crucial alternative agricultural activities. The alternative agricultural activities certainly exclude perennial crops like oil palm and rubber plantation. Applying the self-reliance approach will need multiple and diversified sources of rice import in order to mitigate the effect of any supply disruptions under any impending crisis. Even if the impending crisis happens, Malaysia is believed to be able easily to source 600,000 to 800,000 tonnes of annual requirement from a global market of about 28 to 30 million tonnes.

Conclusion

Actions taken in response to the food crisis in the selected Asian countries have worked out well and produced promising outcomes from a combination of availability, accessibility, utilization, and stability aspects in food security. In greater discussion, Malaysia weighted more on availability aspect in food security by introducing more short- and long-term policy

measures for boosting paddy and rice production, particularly in Sabah and Sarawak. However, much of the unhappiness and disequilibrium in the local paddy and rice market were created due to irrational extensive intervention of the Miller Subsidy and *Beras Nasional* programmes in the nation. Many of the policy measures target at area expansion and productivity but it was suggested that the dominant path to achieve the targeted SSL is through R&D at specialized and committed paddy and rice research centre. Alternatively, the country may need to re-evaluate its long-served self-sufficiency approach.

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