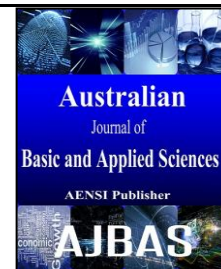




ISSN:1991-8178

Australian Journal of Basic and Applied Sciences

Journal home page: www.ajbasweb.com



Issues and Challenges of Integrated Agro-Food Supply Chain: An Overview of Malaysian Food Security

¹Ahmad Shabudin Ariffin, ²Zakaria Abas and ³Nazim Baluch

¹Universiti Utara Malaysia, College of Business, School of Technology Management and Logistics, Sintok, Kedah, Malaysia.

²Universiti Utara Malaysia, College of Business, School of Accounting, 06010 Sintok, Kedah, Malaysia

³Universiti Utara Malaysia, College of Business, School of Technology Management and Logistics, Sintok, Kedah, Malaysia

ARTICLE INFO

Article history:

Received 22 February 2015

Accepted 20 March 2015

Available online 23 April 2015

Keywords:

Malaysian Poultry Industry

Food Security

Short Food Supply Chains

Socio Economic Benefits

ABSTRACT

The Malaysian economy has experienced strong economic growth over the past few decades, averaging around 6 per cent a year since 2000. Income per person has become third highest in South East Asia trailing Brunei and Singapore in 2006. With rising incomes, food consumption has shifted away from starchy staples and moved toward wheat and livestock products, seafood, fruits and vegetables. Malaysia's continuing economic growth and industrialisation are expected to place considerable pressure on its policy of increasing food self-sufficiency. With competitive pressure for resources from non-agriculture sectors, there is likely to be limited capacity to increase agricultural production. With the challenges including global warming, floods, droughts, increase in temperatures, changes in rainfall patterns and a rise in sea levels food production is on the decline; Malaysia is one of the many countries where food self-sufficiency is decreasing, year by year. Another weakness of the Malaysia agricultural sector is that it largely produces cash crops and little food. This paper explores interrelatedness of some complementary policy changes and initiatives in the selected Asian countries as well as reviews Malaysian National Food Security Policy (NFSP) that affects food production and food security. The paper concludes that in many important ways, the Malaysian Government still sees food security as a public mandate, especially in the case of rice and working diligently to increase food security for its nationals.

© 2015 AENSI Publisher All rights reserved.

To Cite This Article: Ahmad Shabudin Ariffin, Zakaria Abas and Nazim Baluch., Issues and Challenges of Integrated Agro-Food Supply Chain: An Overview of Malaysian Food Security. *Aust. J. Basic & Appl. Sci.*, 9(13): 171-174, 2015

INTRODUCTION

The Malaysian economy has experienced strong economic growth over the past few decades, averaging around 6 per cent a year since 2000. Income per person has become the third highest in South East Asia after Brunei and Singapore in 2006. With rising incomes, food consumption has lifted away from starchy staples and moved toward wheat and livestock products, seafood, fruit and vegetables (Mitchell *et al.* 1997; Lee and Kennedy 2006). The industrialisation has led to strong competition for domestic resources such as land and workforce in Malaysia. This has triggered a decline in the portion of agriculture in gross domestic product (GDP), from around 15 per cent in 1990 to 9 per cent in 2006.

According to Wong (2009) production in the agricultural sector is dominated by palm oil, rubber and forestry products. Other major agricultural production includes rice, poultry, fruits and vegetables. Because of relatively inadequate production of, and expanding demand for, many

agricultural products, such as wheat, beef, sheep meat and dairy products, imports have been a major source of Malaysia's food supply. In 2005, for example, imports of beef and dairy products accounted for around 77 and 98 per cent respectively of domestic consumption.

Speedy development of the Malaysian economy over the past three decades has led in changing food intake patterns and a growth in demand for agricultural products. Domestic production, however, cannot retain speed with increasing demand. Demand for food, particularly for wheat-based products, livestock, dairy products, sugar and vegetables, is anticipated to increase. Imports are essential to realize Malaysia's food necessities. The leading agricultural exporter to Malaysia is Australia. The main agricultural imports from Australia are wheat, sugar and livestock based including dairy products. Others are wool, vegetables, sheep meat, beef and fruits. Presently the food processing sector is growing significantly in Malaysia, with mostly intermediary inputs being imported. In this situation

Corresponding Author: Ahmad Shabudin Ariffin, Universiti Utara Malaysia, College of Business, School of Technology Management and Logistics, Sintok, Kedah, Malaysia.
Tel: +6019-546-7237; E-mail: shabudinariffin@gmail.com

wheat and sugar are used for advance processing especially for bakery products and confectionaries, and meat in the production and export of halal products

Notwithstanding the significant dependence on imports for food supplies, the Malaysian government remains devoted to a high level of self-sufficiency in some food products, especially rice. Current government policies, aim to regenerate agricultural production to become one of the engines of economic growth. Currently, there are government controls on domestic prices for specific food products, including wheat flour and sugar, and regulations on food imports. Some of those regulations impose additional costs to exporters and/or could confine access to Malaysia's domestic market.

Malaysia's continuing economic growth and industrialisation are expected to place considerable pressure on its policy of increasing food self-sufficiency. With competitive pressure for resources from non-agriculture sectors, there is likely to be limited capacity to increase agricultural production. In general terms, open trade practices in Malaysia could lead to more efficient allocation of domestic resources to sustain high economic growth.

Issues And Challenges:

The main challenges are unlimited human action that has contributed to various damaging activities to the earth and its population. These include global warming, floods, droughts, increase in temperatures, changes in rainfall patterns and a rise in sea levels. Such occurrences would seriously affect the lives of the earth's inhabitants and their activities, particularly agriculture. For example, the reduction of rainfall and the increase in temperature can definitely affect the growth of all types of plants.

An increase of 10°Celsius in temperatures could reduce crop output by 9% to 10% (Ali, R and A.K Ali, 2009). Meanwhile persistent drought could deferral the schedule for the seeding of paddy, which affects the yield of rice, and hence could weaken national food security.

Heat stress due to extremely high temperatures will also affect productivity and breeding in aquaculture. There are several challenges in maintaining adequate food supply; the main challenge is the shortage of land for agriculture. Presently, competition for the use of land between the agricultural sector and other sectors has greatly jeopardised efforts to commercially develop and expand the agricultural sector on a larger scale in Malaysia.

According to Ministry of Agriculture report, the available reserve of agricultural land has decreased from 999,300 hectares in year 2000 to 922,000 hectares in year 2010. Land for the production of food is estimated to drop further, to about 841,000 hectares by year 2020, due to conversion of food

farming areas into oil palm plantations as well as development of more residential and industrial areas.

The efficiency of the agro-food segment is still considered very low as production mostly involves smaller scale and lacks the use of technology, which leads to low effectiveness of the overall agro-food industry. Furthermore, entrepreneurs or farmers in this sector still depend heavily on expensive imported seeds as the local supply of quality seeds is still inadequate.

This, in turn, increases the production cost which burdens the farmers and leads to lower profit margins. According to the Minister of Agriculture and Agro-Based Industry; In terms of manpower, there is a high dependency on foreign workers in the agricultural sector. The number of foreign workers in this sector has seen a tremendous five- fold increase from 45,000 workers in year 2005 to 233,400 workers in year 2010.

The fact that rising reliance on foreign workers is due to the perception held by our local population that farming involves hard arduous work requiring much physical strength. Lack of attentiveness and low participation of the private sector in agriculture and the agro-food industry as well as the low level of commercialisation and transfer of research and development are some other challenges that will need to be addressed in order to develop and expand the agro- food industry.

There has been much effort designated that generate the food crisis (paddy) that kicked in after the economic recession and further worsened by the financial crisis in 2008; this also pacified food prices. Although the recession appeared to be driven by short- term shock, current food prices are still at higher levels than pre-crisis levels.

According to the Chatham House Report by Ambler-Edwards *et al*. (2009) suggested 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. 90 per cent of paddy is produced and consumed in Asia. The testimonial of statistic has never been changed, nevertheless, the trends of shifting essentials, both on the supply and demand sides have been emerging. Some of the effects of change are already being felt. The prominent fact of the higher food prices has been listed as the end of the inexpensive food age. Common practice is likely to fail and will carry intolerable political, social, and economic environment, if nothing is done for improvement.

Growth In Agricultural Production:

Malaysia has been facing decline in agricultural production, from an annual average of around 6.5 per cent in the 1960s to 3 per cent in the first half of the 2000s. Inadequate accessibility of arable land has been a major contributor to this decrease in

agricultural production. The growth in agricultural land has slowed from an annual average of around 2.7 per cent in the 1960s to an estimated rate of 1.61 per cent in the first half of the 2000s.

Strong competition for resources from the manufacturing sector has led to a significant decline in the share of agriculture in total employment, from around 26 per cent in 1990 to 15 per cent in 2006. Many male farm workers have migrated to urban areas and, as a result, women have become the major source of labour supply in many rural areas, providing around 75 per cent of the labour force in areas such as Sabah (Masud and Paim 2004).

4. Crop production:

The weakening in overall agricultural productivity is one of the reasons for the decline in

agricultural output growth. This has particularly been the case in the cropping sector, with growth in productivity in the sector slowing from an annual rate of around 3 per cent in the period 1961–1980 to a mere 0.67 per cent in 1981–2001 (Avila and Evenson 2003).

Generally, the key Malaysian agricultural commodities are palm oil, rubber and forestry products, accounting for around 60 per cent of the total agricultural output. Paddy rice accounts for 3.4 per cent, while coconut, vegetables, fruit, tobacco and pepper have, in aggregate, a share of 15.2 per cent (Wong 2007). The dominant agricultural product in Malaysia is Palm oil which is the second largest producer after Indonesia. Malaysia accounted for 43 per cent of global palm oil production in 2006 (USDA 2007).

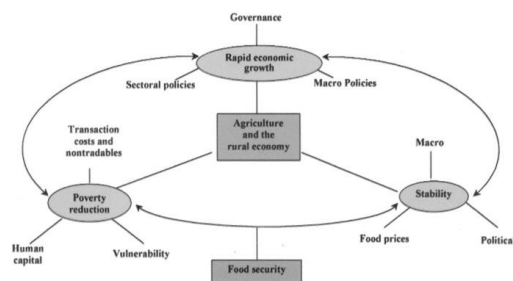


Fig. 1: A macro perspective on determinant of food security. (Source Timmer 2004).

5. Discussion And Conclusion:

In many important ways, the Malaysian Government still sees food security as a public mandate, especially in the case of rice. Be that as it may conflict that in the wake of globalisation, biotechnology revolution and the increasing importance of SCM, on-course corrections or adjustments are both necessary and crucial in order to build on past gains.

As result, Malaysia while continuing with its proven strategic approach to food security, should strive to make the following adjustments.

The food price crisis of 2008 was a wakeup call for food security in Malaysia. Malaysia's ability to provide access to food at the right form, time and place was critically tested during that year. Malaysia would have scabbled completely as it has happened in the Philippines, had it not been for the reasonable economic growth it enjoyed in the last decade prior to the crisis. Malaysia was able to contain the crisis by providing supports and protection to both producers and consumers through government intervention measures such as price control, subsidies. This involvement proves the term food security functions in three compasses, that is, economic growth, poverty reduction and stability; much beyond the latitude of self-sufficiency, which was used as an indicator for food security measures for the nation. This misunderstanding defects both

the micro and macro foundations required to ensure food security. The micro element of food security involves safeguarding that individual have access to food in the right quantity and quality for healthy life. The macro outlook refers to basic policies that guarantee the unfortunate and backwards sectors (in particular food makers) are included in the growth process to increase their income and return correspondingly.

While Malaysia has achieved some growth in the industrial crop sector, the progress in the food sector is left behind. In term of food production it has not shown notable growth due to a number of reasons such as under-investment because of low returns as prices are generally low, limited government disbursement on food and overemphasis on trade crops. These developments have made the food sector non-competitive, compared with export crops that received generous support from the public and private sectors. Protection provides stability to producers, consumers and the industry participants, but it is not economically sustainable in the long term. The long term landscape for food in the world market will be dictated by the supply constraints such as depletion of resources (land and water), climate change and technological lags in the face of growing populations and demand for food. The food equation is further complicated by the emergence of the demand for biofuel, which uses food

commodities (corn, palm oil, soybean, etc.) as feedstock. This food versus fuel competition is already depleting resources and will certainly affect food production, as proven during 2008 economic recession.

Movements taken in reaction to the food crisis in the selected Asian countries have worked out well and produced encouraging consequences from a combination of availability, accessibility, utilization, and stability features in food security. In broader debate, Malaysia weighted more on availability aspect in food security by introducing more, short and long term policy processes for advancing paddy and rice production, particularly in spaces states such as Sabah and Sarawak. Many of the policy measures target at area expansion and productivity but it was suggested that the dominant path to achieve the targeted Malaysian National Food Security Policy (NFSP) is through R&D at specialized and committed paddy and rice research centre. Alternatively, the country may need to reassess its self-sufficiency approach.

REFERENCES

- Tomovska, J.S., Presilski, N. Gjorgievski, N. Tomovska, M.S. Qureshi and N.P. Bozinovska, 2013. Development of a spectrophotometric method for monitoring angiotensin-converting enzyme in dairy products. *Pak Vet J*, 33(1): 14-18.
- Ali, R. and A.K. Ali, 2009. Estimating the Prospective Impacts of Global Warming on Malaysian Agriculture. *Proceeding of 2nd National Conference on Agro-Environment*, MARDI, Malaysia, 24-26.
- Ambler-Edwards, S., K. Bailey, A. Kiff, T. Lang, R. Lee, T. Marsden, D. Simons and H. Tibbs, 2009. *Food futures: Rethinking UK strategy*. Chatham House (the Royal Institute of International Affairs).
- Avila, A.F.D. and R.E. Evenson, 2003. *Total factor productivity growth in agriculture; the role of technological capital*, Postdoctoral Research Report, Economic Growth Center, Yale University, New Haven, CT, USA.
- Masud, J. and L. Paim, 2004. *Women in agriculture and rural economy: Malaysia*, Report submitted to FAO Regional Office for Asia and the Pacific.
- Ministry of Agriculture and Agro-based Industry (MoA), 2009. *Maklumat asas padi dan beras di Malaysia*
- Mitchell, D., 2008. *A note on Rising Food Prices*. Policy Research Working Paper 4682. World Bank, Washington DC.
- United States Department of Agriculture, 2007. *Indonesia palm oil production* (http://www.pecad.fas.usda.gov/highlights/2007/12/Indonesia_palmoil/)
- Wong, L.C., 2009. *Development of Malaysia's Agriculture Sector: Agriculture as an Engine of Growth?* 4-5
- Wong, L.C.Y., 2007. *Development of Malaysia's agricultural sector as an engine of growth*, Paper presented at the ISEAS Conference on the Malaysian economy: development and challenges, Singapore.