



Ministerial Briefing Paper of Food Safety Issue

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Abstract

The purpose of this brief paper is to review the background and pre-existing policies/activity related to food safety and provide options for the Australian government to prevent and respond to any significant outbreaks of infections or poisoning related to local and imported foods. There are three aspects of recommendations provided for the Australian government to prevent and respond to food safety issues: aligning the three principles with food safety governance, food risk reduction measures, and data collection and analysis of socioeconomic status of population. The proposed options mainly focus on the prevention of significant outbreaks of significant infections and poisoning related to local and imported food. Even though there are both advantages and disadvantages of each aspect of options, the three aspects of options are still all recommended for the minister.

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Introduction

The advent of globalization changes the supply chains of food systems in different countries, with customers consuming foods produced by different producers from home and abroad (Swinnen 2007) ^[27]. The question is “*what role the Australian public health system could play to prevent and respond to any significant outbreaks of infections and poisoning of related to local and imported foods*”.

Background

As a multilateral institution, World Trade Organization exerts great functions in influencing national policies and private industries, such as food industries (Oosterveer and Sonnenfeld 2002, p.2). Oosterveer and Sonnenfeld (2002, p.2) further imply that globalization has triggered fundamental impacts on global food industry, with global customers' lives affected by both local conditions and distance developments. For instance, foods, in contemporary world, are consequences of distance producers and other relevant stakeholders of time and space. Oosterveer and Sonnenfeld (2002) conclude this change of food provision by stating that globalization transform the production and consumption actions of foods worldwide. Swinnen (2007) ^[27] directly criticizes the influence of the globalized food industry by arguing that the enormous size, dynamics and complexity of food systems are full of challenges and risks for people worldwide. In fact, Oosterveer and Sonnenfeld (2002) also summarize two challenges facing the global food industry: increasing food sustainability and governing in the global landscape. Oosterveer and Sonnenfeld (2002) and Swinnen's (2007) ^[27] arguments point out the flip sides of the global food industry, besides advantages such as more food varieties and availability of necessary and rare food items (Godfray *et al* 2010) ^[15]. As a matter of fact, they hold similar contentions of the challenges of facing the global food industry, after the increased size and intensified complexity. Confronting the increased size and intensified complexity of the global food industry, food safety becomes an ever fundamental problem. There are multiple articles studying the seriousness and significance of food safety issue in today's globalized world. The Australian public health system might not be adequately prepared to and respond to any significant outbreaks of infections and poisoning related to local and imported foods. The below few paragraphs briefly list the underlying causes of this fact.

Firstly, Vellema and Boselie (2003) ^[30] point out the underlying risks of business strategies and governance on food safety. Oosterveer and Sonnenfeld (2002) state the transformation of food production and consumption, during the globalization wave. Vellema and Boselie (2003) ^[30] extend this topic by identifying the specific risks, from the perspective of business management. Within the food chain, producers, supermarkets, food retailers and wholesalers play equivalently important parts in contributing to the food safety. This indicates this food chain trend is taking place in the Australian food market as well. Besides complying with international standards and strict local food requirements, food chain stakeholders need to take account of business strategies and governance. Likewise, Shepherd *et al.* (2006) argue that there are plenty of risks and uncertainty of food chain stakeholders, which need further assessment and solutions. Vellema and Boselie (2003) ^[30] identify three solutions: building robust partnerships, intensifying transparent coordination and enhancing tailor-made capacity of food distribution. Vellema and Boselie (2003) ^[30] further imply that the three measures need collaborative commitment of managers and policymakers. In Australia, food supply is undergoing these risks as well, with more and more food imported from foreign countries. Thereby, outbreaks of infections and poisoning of foods could occur, due to risks of business strategies and governance on food safety.

Secondly, food safety regulations and risk perceptions vary across countries (Buzby 2003). Finucane and Holup (2005) argue that people in different countries perceive genetically food risks differently, due to cultural difference. Finucane and Holup (2005) continue to put forward that cross-cultural difference could create conflicts when groups seek to reconcile the complexity of benefits and risks of genetically foods (GM). For instance, in a survey conducted in 1995, around one third of European respondents considered GM as health hazard, opposed to one fifth of the US respondents acknowledging GM risks. In addition, the United Nations has developed guidelines to assess the risks of genetically foods (Stephenson 2001). Buzby (2003) concludes that risks of food regulations and risk perceptions challenge the capability of policymakers in protecting domestic food supply. In Australia, GM foods have been sold in Australia, since 1999 (Dryzek *et al.* 2008). Except for GM foods, different food safety regulations and risk perceptions could pose serious challenges for the production, distribution and consumption of other foods in Australia. Therefore, outbreaks of infections and poisoning of foods could emerge at anytime, if the Australian public health system does not adopt concrete measures.

Thirdly, Australian people with low socioeconomic status tend to consume unhealthy, low price and dangerous foods. People at low socioeconomic position are less likely to consume foods that could promote their health conditions (Turrell *et al.* 2006). In fact, they care less about foods types and quality (Turrell *et al.* 2006). Turrell *et al.* (2006) continue to point out that most disadvantaged Australian people, within any age and gender groups, have more significant high rates of health-related indicators, such as food insecurity, doctor consultation and smoking. Dammann and Smith (2009) conducted a research to investigate into socioeconomic factors influencing food choices. Their research result shows that people with relatively socioeconomic status have limited health concern and they think healthy foods are unaffordable. Barrett, Crossley and

Worswick (2000) point out that income and consumption inequality in Australia rise statistically and significantly each year. As unhealthy foods are more likely to be associated with bacterium and diseases, low socioeconomic Australians could be the source of the outbreaks of infections and poisoning of local and imported foods.

There are already some food safety incidents in Australia, which poses the Australian public health system intensified challenges. In recent years, food contamination and foodborne diseases have been prevalent in Australia (Fao 2015). Studies show that millions of people have been affected by or dying from foodborne diseases in Australia, Germany, India and the US (Fao 2015). Studies also show that up to 30% of population in industrialized countries could be affected by foodborne diseases every year (Fao 2015). The economic cost, due to food diseases and poisoning, is rather a big burden (Buzby and Roberts 1996). For instance, the economic cost of 11,500 cases of food poisoning every day is estimated to arrive at AUD \$2.6 billion each year (Australia New Zealand Food Authority 1999). Fao (2015) summarizes 5 causes of food safety issues, including: microbiological hazards, chemical hazards, food adulteration, GM foods and urbanization.

Pre-existing policies/activity

The causes of food insecurity are complex and dynamic. Hence, inventions, policies and activities should respond to underlying causes (Yiannas 2008). The background section presents an elaborate discussion of underlying causes and trends of food insecurity in Australia. This section will review pre-existing policies or activities attempting to mediate these causes and trends by the department of Health or other departments in Australia or other countries.

Firstly, Food Policy Section is responsible for providing regulation and governance for food supply safety at national level and develops advice and regulation for the Australian government at international level (Department of Health 2011). Hence, food supply safety of Australia in the international context still depends on regulations. It is important to review how other countries are coping with food supply safety. The three principles proposed by Vellema and Boselie (2003) ^[30] received concrete effectiveness in Brazil, Thailand, Vietnam and the Philippines: building robust partnerships, intensifying transparent coordination and enhancing tailor-made capacity of food distribution. National level public health ministers of the four countries participate in the development of relevant policies and regulations to promote the implementations and compliance (Vellema and Boselie 2003) ^[30]. For instance, Brazilian agricultural policy encouraged companies to build robust relationship and transparent coordination with foreign food companies to ensure food export safety (Negra 2014). Brazil's commodity export policy, which considers the influence of globalization on global supply chain, has made the country a competitive player in coffee export (Daviron and Ponte 2005). Thereby, besides relying on regulations, other countries also develop non-regulation principles to ensure food supply safety.

Secondly, HACCP Australia (2015) seeks to provide food safety methodology like program, auditing, vendor quality assurance and certificating and consultancy. Hazard Analysis and Critical Control Point (HACCP) system is used by Australian regulatory agencies to craft new food regulations to control microbial pathogens of foods (Buzby 2003). This is a food risk reduction measure to identify the potential risks

of local and imported food and develop relevant regulations to lower the risks. Unlike Australia, UK adapts HACCP system into different industry contexts. For instance, this system is used in meat plants to guide meat operators to identify potential risks and hazards and check and act on these risks and hazards (Foods Standard Agency 2015). To further implement this measure, the UK Foods Standard Agency provides meat operators with documents, training and guidance (Foods Standard Agency 2015). Buzby (2013) specifically emphasizes on food quality certification program to ensure safety. There are food quality certification program in Australia as well. For instance, HACCP Australia focuses on certification services for food safety equipment, materials and services (HACCP Australia 2015). For instance, Food safety auditor certification needs to be acquired by food auditors to apply for food auditing services in Australia (Food Safety 2015). Koller *et al.* (2007) state that standardized food quality certificate could mediate the negative impacts of cultural difference. There are several international food quality certificates that exert profound functions in promoting food safety as well, such as International Organization for Standardization 9000 series and EN 29000. However, when the costs of firms to get their products certified by third-party certifiers are greater than benefits, firms might only get certified, mandated by the government (Buzby 2013), so is Australia. Therefore, Buzby (2013) point out that public interventions and investments are necessary to be in place to harness the effectiveness of risk reduction measures and food quality certificate program. A case in point is the investment of the UK government on the training and guidance of HACCP.

Thirdly, Australia provides concrete household assistance for low-income Australians or families (Human Services 2015). The purpose of this assistance policy is to improve the living conditions of this group of Australians or families. For instance, Energy Supplement is provided for families who have already received Family Tax Benefit (Human Services 2015). Essential Medical Equipment Payment is provided for households who experience energy costs when handling their disability through medical equipments (Human Services 2015). The Human Services (2015b) department also provides Income test for low income people (Human Services 2015b). Krietsch (2014) points out that there are plenty of measures could be implemented to lower the risks of infections and poisoning of foods among low socioeconomic status people, argued by Krietsch (2014), such as improving the retailing environment, navigating their cultural background, enhancing the local facilities and dissertating safe food practices. According to a study undertaken by Cornell University, over 80% respondents, within low socioeconomic group, frequently left food for over two hours and hastily washed cutting boards, regardless of Salmonella risk (Krietsch 2014). What remains to be a critical question to provide measures for low socioeconomic status people is the data collection and researching procedure (Krietsch 2014). Krietsch (2014) further implies only accountable data and research is ensured, public health professionals could

gain a thorough understanding of food safety issues and risks. The public health professionals could effectively allocate resources and craft contingent food safety programs. This argument of Krietsch (2014) not only underlies the influence of socioeconomic status on food safety issues but also pinpoints the importance of evidence in supporting and rationalizing the implementing of targeted public health programs. But there is no regular policy to implement regular data collection and analysis in Australia yet.

Considerations

Aligning the three principles with food safety governance

The first course of action proposed for the Australian government is to aligning the three principles with food safety governance: building robust partnerships, intensifying transparent coordination and enhancing tailor-made capacity of food distribution. To this purpose, there are several options for the government (Vellema and Boselie 2003)^[30]. Firstly, the government could offer an incentive to encourage food companies or food supply companies to build robust partnerships with domestic and foreign companies. The second section has identified that the coffee commodity is a successful practice for contributing to food safety of Brazil's domestic and foreign market. Secondly, about intensifying transparent coordination, the Australian government needs to include this principle in food safety policy. Transparent coordination of suppliers could lower the risks (Váncza, Egri and Monostori 2008). By doing so, underlying risks of imported food could be identified. Thirdly, for the purpose of enhancing tailor-made capacity of food distribution, the Australian government needs to play an important part of anticipating the potential food demands. To this end, the Australian government could initiate a regular reporting policy to inform food companies the potential demand in the next 3 or 6 months. Then food companies could prepare in advance by increasing import orders or reducing foreign import orders. Well anticipated food demands could secure domestic food price to ensure customers could access to foods at reasonable price (Baumol and Blinder 2015). Therefore, this aspect of options could prevent significant outbreaks of infections and poisoning related to foods.

The three options aim at encouraging the Australian government to align the three principles of success practices with food safety policies or initiates to reduce the risks of infections and poisoning of local and imported foods. Vellema and Boselie (2003)^[30] point out that the three principles could help reduce risks of business strategies and food safety governance. Currently, there are food safety standards in Australia that specify the application, program, requirements and equipment of the standards (Foods Standard 2015). Although companies could understand their responsibility in promoting food safety, there are limited links between the government and companies in practicing these standards, norms or requirements. The three options bring the association between the government and food companies closer to exert different and interrelated functions with each other.

Table 1: Advantages and disadvantages of options

Options	Advantages	Disadvantages
Offer incentives for companies to build robust partnerships	To attain incentives, food companies will be more likely to find qualified and promising partners. Thereby, food risks could be reduced.	The Australian government needs to pay more attention to partnerships that are built solely on economic benefits.
Including transparent coordination in food safety policy	Transparent coordination of food companies could ensure food quality and reduce food risks.	It is rather difficult for the Australian government to identify whether transparent coordination is practiced.
Initiating reporting policy to inform food company potential domestic food demands.	Secure food supply and demand could promote food quality and secure food price.	This reporting policy will need the government to significantly invest in the data collection process.

Food risk reduction measures

Food risk reduction measures are proposed. In the background and pre-existing policies discussion section, risk reduction measures are discussed, with particular focus on HACCP. In fact, risk reduction measures, such as HACCP is implemented in Australia as well. The Australian government continuously refines their roles and responsibilities to promote food safety, based on HACCP system (Souness 2000). This system helps the government identify hazards and develop food safety program (Souness 2000). Similarly, the implementation of HACCP in Australia is in adherence with the 7 principles (Stewart 2013), such as hazard analysis and critical control points. But compared to the

implementation of HACCP in the UK, there are two important steps left to be implemented: check and act (Foods Standard Agency 2015). Besides conforming to the 7 principles, the implementation of HACCP also follows the PDCA four steps: plan, do, check and action. This circulation indicates that food safety hazard needs to be analysed, tackled, checked and corrected. What is more, the UK government also specifies HACCP risk reduction measures for different sectors, such as meat plant. So, two options for the government are to increase the PDCA four steps and craft specific risk reduction measures for different sectors. For instance, if an infection or poisoning outbreaks, HACCP system could be used to manage and control the hazards.

Table 2: Advantages and disadvantages of options

Options	Advantages	Disadvantages
PDCA steps of HACCP system	Providing a systematic way to identify and control food safety hazards, such as infections and poisoning.	The government has more experiences in identifying hazards, but limited in controlling hazards. Thereby, the check and action steps could be difficult.
Craft specific HACCP risk reduction measures for different sectors	Specific HACCP risk reduction measures could provide guidance for different food sectors, such as meat and drink.	It could be difficult for the government to craft these measures, due to their lack of experiences.

Data collection and analysis of socioeconomic status of population

The third course of action is to initiate regular data collection and analysis policy to identify socioeconomic status of population in Australia. Crossley and Worswick (2000) put forward that income and consumption inequality in Australia rise statistically and significantly each year. This indicates that the gaps of socioeconomic status of Australians will remain to be significant in the future. People with low

socioeconomic status are more likely to endure more food safety risks (Krietsch 2014). Krietsch (2014) also identified the challenge of implementing public health measures, which is the lack of data collection and analysis process to identify the low socioeconomic status population. Hence, the option to initiate regular data collection and analysis policy to identify the low socioeconomic population in Australia is rather important. This options aims at preventing outbreaks of significant infections and poisoning related to foods.

Table 3: Advantages and disadvantages of options

Options	Advantages	Disadvantages
initiate regular data collection and analysis policy to identify the low socioeconomic population in Australia	After identifying the low socioeconomic population in Australia, public health professionals could effectively allocate resources and craft contingent food safety programs to reduce food safety risks of this group population (Krietsch 2014)	Low validity and reliability of the collected data of socioeconomic status of population could negatively influence the effectiveness of public health program.

Recommendations

The recommendations are the three aspects of options should all be implemented in Australia. In the last section, the rationale to implement each option is discussed. Firstly, for instance, although companies could identify their responsibility in promoting food safety, there are limited links between the government and companies in practicing these standards. The three options to align the three principles with food safety governance bring the association between the government and food companies closer to exert different

and interrelated functions with each other. Secondly, there are practical limitations of the implementation of HACCP system in Australia. The two recommended options properly mediate these limitations. Thirdly, income and consumption inequality in Australia rise statistically and significantly each year. If the Australian government seeks to provide supports for low socioeconomic status population, without regular data collection and analysis procedure, they might not effectively allocate resources and craft public health programs.

Conclusion

In this paper, food safety issue in Australia is discussed. It firstly made an statement of the issue, which is “*what role the Australian public health system could play to prevent and respond to any significant outbreaks of infections and poisoning of related to local and imported foods*”. Then this paper reviewed the background of the context of food safety in Australia. Three major trends were identified: 1) there are underlying risks of business strategies and governance on food safety, 2) food safety regulations and risk perceptions vary across countries, and 3) Australian people with low socioeconomic status tend to consume unhealthy, low price and dangerous foods. After that, this paper reviewed pre-existing policies/activity of Australia and others to reduce food safety risks. In the considerations section, there are three aspects of options provided for the Australian government to prevent and respond to food safety issues: aligning the three principles with food safety governance, food risk reduction measures, and data collection and analysis of socioeconomic status of population. It could be concluded that the proposed options mainly focus on the prevention of food safety issues and risks. The three aspects of options are all recommended.

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