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Food Security and Safety in Australia – An issue at several levels

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Introduction

As defined by Radimer (2002) food security is the ability of all people to access at all times enough food for an active, healthy life. Food security can be broken into two components or aspects:

- i. food supply
- ii. food safety

Countries place different levels of importance on these aspects depending on the risks they face.

Food security is important at global, national and regional levels. The global challenge will be to increase food production through improved agricultural productivity, whilst managing environmental impacts and ensuring equitable access to food across the world's nations and regions.

Increased global food demand is amplified by population growth and the combination of increasing disposable incomes and the associated dietary changes of the emerging middle classes in developing countries. The world's population is estimated to increase to around 9.3 billion by 2050 (CSIRO 2011). Combining this population increase with the changing consumption patterns associated with increased prosperity, it is estimated that global food production needs to increase during the next forty years by seventy percent according to CSIRO (2011). This calculation assumes projecting emerging food consumption patterns onto the estimated population growth. It does not allow for compensations that may be

made in food consumption if environmental constraints and technology limitations on food production impact on the globe's food production systems ability to meet this demand.

An important additional consideration remains. That is, does the world need to increase food production or does it need to improve food distribution and reduce food inequity? These are vexing questions that will confront world leaders, policy makers and scientists. However, while the situation going forward presents immense challenges, it also provides enormous opportunities for those involved in food production and logistics (storage and distribution).

Global food security and Australia's role

Australia spent approximately \$416.7 million or 8.1% of total Official Development Assistance (ODA) on international food security in 2012-13 (AusAID 2013).

Australia funds aid programs to improve agricultural productivity, improve rural livelihoods and enhance community resilience in times of hardship through improved food supply (AusAID 2013). Australia provides humanitarian food assistance globally through organisations such as the World Food Program (WFP) and the UN Food and Agriculture Organisation (FAO). Australia, along with members of the Asia Pacific Economic Cooperation (APEC), East Asia Summit (EAS) and World Trade Organisation (WTO) advocate food security

and trade liberalization; supporting economic and trade policies that coincide with good governance to ensure food insecurity is kept to a minimum with a continual supply of food to those in need (Australian Centre for International Agricultural Research 2013).

Food security and safety at home

In the case of Australia, food safety is of paramount importance in terms of internal and external threats to agricultural production. On a global scale, Australia plays an integral part in food supply, not only by providing food but through technology transfer, research and education to assist other nations (especially developing nations) meet their food production targets.

While the general impression is that Australia has a high level of food security, especially relative to many of the poorer nations, there is a food security issue in Australia.

There is a lack of food security in Australia in three key aspects:

- i. inadequate access to food,
- ii. inadequate supply,
- iii. inappropriate use of food (Rosier 2011).

Burns (2004) estimated that 5% of the Australian community has a level of food insecurity present. Groups that are most susceptible are the unemployed, single parent households, low-income earners, rental households and young people (Burns 2004).

The main reasons outlined by Rosier (2011) for household level food insecurity include:

- Lack of resources (financial resources and others including transportation)
- Lack of access to nutritious food at affordable prices
- Lack of access to food due to geographical isolation
- Lack of motivation or knowledge about a nutritious diet

Concerns are raised when referring to outcomes for children in the short and long-term. Child and family services alongside governmental bodies are concerned about food insecurity as it can drastically alter a child's academic ability and create health issues (including obesity, diabetes and heart disease) later in life (Rosier 2011).

Food safety - the other side of food security

Food safety is of greater relevance to developed countries where consumer protection and threats to the environment are given higher levels of importance than in developing nations. Threats include external (biosecurity risks introduced from overseas) and internal (threats due to internal domestic activities, e.g. stock movements)

(Rural Industries Research and Development Corporation [RIRDC] 2007).

The *Food Integrity and Biosecurity (FIB) Program* was established in Australia to deliver research and development and to maintain Australia's ability to handle pests, diseases, bio-terrorism and the threats these pose to food, crops and livestock along with a continued ability to access national and international market places (RIRDC 2007). The objective of FIB was to address Australia's need for economic, environmental and social sustainability in regards to food security.

Many authorities were involved in maintaining FIB, including:

- Department of Agriculture, Fisheries and Forestry (DAFF)
- Department of the Prime Ministers and Cabinet (PM&C)
- State and Territory Governments
- National Farmers' Federation (NFF)
- Australian Food and Grocery Council
- Plant Health Australia (PHA)
- Animal Health Australia (AHA)
- Rural Industries Research and Development Corporation
- Food Standards Australia New Zealand (FSANZ)

For food integrity, industry bodies such as Meat and Livestock Australia (MLA) and Dairy Australia are responsible for their own quality assurance (RIRDC 2007). Processors and others involved along the food supply chain are required to comply with national standards; however some also choose to meet international standards, e.g. European Union (EU). All supermarkets and food outlets must be accredited according to guidelines of ISO22000: 2005 *Food Safety Management Systems: Requirement for any organization in the food chain*.

DAFF is the main policy making agency in terms of biosecurity. DAFF, assisted by numerous others (outlined below), formed Australian Biosecurity System for Primary Production and the Environment (AusBIOSEC) to ensure coordination between different governing bodies.

- Department of Agriculture, Fisheries and Forestry (DAFF) – provides border control and import quarantine and ballast water programs
- Biosecurity Australia (BA) – undertakes import risk analysis (IRAs)
- Animal Health Australia (AHA)– supports biosecurity planning and administers the Emergency Animal Disease Response Agreement and AUSVETPLAN
- Plant Health Australia (PHA)– similar to AHA, but focusing on plant pests and diseases and delivers PLANTPLAN

- State and Territory departments of agriculture provide on-going management of emergency pests and diseases; implement AQUAVETPLAN and the Emergency Marine Pests Plan (EMPPlan).

Who's doing what and how – Australian policies, legislation and authorities?

At a national level, policy measures can impact food security and safety. Many authorities involved with Australian food security have been outlined earlier in this paper. In addition to these, service providers advocate numerous policies locally to improve food security in their geographical areas (Strategic Inter-Governmental Nutrition Alliance of the National Public Health Partnership 2001) including:

- Encouraging food manufacturers and wholesalers to dispose of surplus food through food banks – through use of economic incentives or other means
- Reflect the higher cost of food in remote areas
- Address provision for special needs diets (e.g. gluten free)
- Aim to improve nutritional standards and knowledge within the community (i.e. public health policies)
- Support local production of food and improved transport to food outlets

Looking from a biosecurity perspective, research and development is provided by state agricultural departments and Cooperative Research Centres (CRCs) to reduce the impact of internal and external threats (RIRDC 2007). These bodies focus their research and development on biology, epidemiology, ecology of exotic plant and animal pathogens and pests, diagnostic capabilities, improving surveillance, incursion response capabilities and improving scientific based decision-making (RIRDC 2007).

The Australian Government has a range of programs to address threats to Australia's primary production sectors, the environment and human health, while also supporting tourism and trade through its Department of Agriculture (Australian Quarantine Inspection Service [AQIS] 2012). DAFF manages quarantine controls at Australian borders and also does import and export inspections and certifications. This is done to ensure Australia's reputation for optimal animal, plant and human health status and access to overseas export markets are maintained (AQIS 2012).

DAFF and other relevant authorities use X-ray machines, surveillance, and detector dogs to maintain interstate and national quarantine levels. Australian quarantine is managed through pre-border, border and post-border measures, with focus on finding and destroying potential threats at state border crossing points, airports, seaports,

and international mail centres (AQIS 2012). This high level of control aims to protect Australia's \$32billion agricultural export industries along with its unique environment, native flora and fauna, tourism and healthy lifestyle (AQIS 2012).

Improvements to food security and safety standards in Australia

There is a need in Australia to improve public awareness regarding food security and safety. Correct and thorough knowledge regarding nutrition and food preparation, coupled with aiming to reduce national food wastage and inequity is of high importance.

Current biosecurity methods in Australia are not well targeted to small lifestyle landholders and this needs to be addressed (Hollier, C et al. 2008). These small lifestyle landholders generally lack practical and technical agricultural knowledge, posing serious threats with environmental and economic consequences (Aslin & Mazur 2005). The need to educate small landholders who routinely detach themselves from mainstream/commercial agriculture and farming practices is also important (Hollier, C et al 2008).

Implications of outbreaks are felt by numerous sectors in industry, agriculture, natural resources, public health, trade and economic growth (Murdoch, H et al 2006). Awareness of potential threats, cooperation to modify practices and implement action of control measures by landholders is critical if an outbreak of an exotic disease or pest was to occur.

Conclusion

Australia has numerous policies, legislation and authorities that focus on implementing strategies to ensure Australian food security and safety is at the highest achievable level. Without appropriate food security and safety measures in place Australians may not have reliable access to sufficient and safe food for an active, healthy life. Australia places paramount importance on national food safety. Australia is extremely vigilant with potential internal and external biosecurity threats. These, when kept to a minimum, help maintain Australia's ability to provide viable agricultural production, secure natural resources, better public health, access to international trade and economic growth and development. Without food security and safety, Australia or any other country for that matter cannot ensure these outcomes into the future.

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