Australian Government

# National FOOD PLAN

## **Issues paper** to inform development of a **national food plan**

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# Foreword

The global food market is rapidly changing and facing new challenges. At home, through utilising innovation and trade we have benefited from a vibrant food industry. With the changing face of international food markets Australia must position itself to manage future risks, but equally, to reap future gains.

Our nation's food supply is secure, and we need to remain vigilant in protecting that food security in the years to come. At the same time we want to ensure our food industry can make the most of the rapidly developing market opportunities for food industry goods and services, especially in Asia.

For these reasons, I am mindful of the need to maintain a long-term outlook for our food industry so it remains sustainable and resilient to climate variability and other significant pressures. The sector will need to continually adapt to such challenges.

Australia's natural innovation forms a solid foundation for businesses, governments and non-government groups to meet emerging challenges and opportunities for both food suppliers and each of us as food consumers.

At the 2010 election, the Gillard Government committed to developing a national food plan. The development of the food plan must start with a community discussion about our food and the issues affecting it. In seeking feedback from stakeholders on what the plan should aim to achieve, I have prepared this *Issues paper to inform development of a national food plan* in collaboration with my ministerial colleagues.

There are currently many government policies, programs and regulations to address food-related policy issues, as outlined in this paper. There is, however, no overarching food policy framework. The development of a national food plan will address this need by better integrating food policy along the whole food supply chain—from paddock to plate.

Individuals, businesses, governments, non-government groups and communities all contribute to Australia's food sector. Developing a national food plan gives us an opportunity to talk about our collective vision for Australia's food sector and to identify how we can ensure its continued success.

State, territory and local governments play an important role in the supply and consumption of food. As we develop and implement the plan and other policy initiatives, I will continue working closely with ministerial colleagues across Australia for the long-term benefit of our food industry and food consumers.

I would like to acknowledge my ministerial colleagues and their departments who contributed to this issues paper. I also acknowledge the time, vision and insights of the Food Policy Working Group, which continues to advise the government generally on food-related issues and policies.

Finally, I want to repeat that the government wants your feedback to help it create Australia's national food plan. I look forward to hearing your views.

**Senator the Hon. Joe Ludwig**
Minister for Agriculture, Fisheries and Forestry
Senator for Queensland

# Acknowledgements

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- Department of Agriculture, Fisheries and Forestry
- Department of Climate Change and Energy Efficiency
- Department of Education, Employment and Workplace Relations
- Department of Finance and Deregulation
- Department of Foreign Affairs and Trade
- Department of Families, Housing, Community Services and Indigenous Affairs
- Department of Health and Ageing
- Department of Infrastructure and Transport
- Department of Innovation, Industry, Science and Research
- Department of the Prime Minister and Cabinet
- Department of Regional Australia, Regional Development and Local Government
- Department of Sustainability, Environment, Water, Population and Communities
- The Treasury

# Contents

# Executive summary

## Developing a national food plan

The scope and nature of Australia's food supply is being shaped by global and local forces such as global population growth, differing economic growth rates among countries, climate change, finite natural resources and the increasing burden of obesity and chronic disease due to poor nutrition. Over the coming decades these forces will present both risks and opportunities to individuals and businesses involved in making, moving and selling food—and to all of us as food consumers. Businesses, consumers, non-government organisations and individuals are responding to these forces in many ways—for example, businesses adapting their plans in response to changing consumer preferences. Australian governments also have an extensive range of policies, programs and regulations that respond to these forces and affect food supply and demand. The Australian Government has not, however, defined an overarching approach to food policy. The government believes that an overarching approach would help protect and improve Australia's enviable food security status, and support population health outcomes, among other things, and has committed to developing a national food plan to address these needs.

The government recognises that improvements could be made to its current approach to food policy, for example by addressing any gaps, overlaps or inconsistencies, or explaining its policies in a single framework. This issues paper provides a focus for consultation about possible improvements and covers the whole food supply chain from paddock to plate. The government is seeking ideas and suggestions from all stakeholders on what a national food plan should cover and aim to achieve. Your feedback may also help other stakeholders decide what actions they might take, independent of government, to make a difference for food businesses and consumers.

To help you provide feedback to the government, the issues paper provides information about Australia's food supply and consumption, including the importance of adequate nutrition to health and wellbeing, and poses questions for discussion and feedback. The paper also summarises the wide range of food and nutrition-related government policy and programs. A summary of key points in the issues paper is provided below.

## Food security

The United Nations Food and Agriculture Organization defines food security as:

> When all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

Global food demand will continue to increase in coming years as populations rise and growing incomes drive the need for greater food production and change patterns of food consumption. However, the growth rate in global food consumption is expected to gradually slow over the next 40 years as global population growth plateaus. Currently, one billion people suffer chronic hunger and the United Nations estimates that food production will need to increase by about 70 per cent from 2005–07 average levels to feed the projected world population of 9.3 billion by 2050. Improving agricultural productivity globally, particularly in food-deficient countries, will be important to meet this target. Continued improvements in international trading rules that allow food to flow where it is needed will also help global food security.

▶ *For more information on global food security see section 3.1.*

Australia produces much more food than it consumes, including almost all of its own fresh food, however as the population increases, imports are likely to complement domestic production in satisfying Australia's food requirements, particularly in processed foods. There is therefore no foreseeable risk to Australia's food security. However, the government recognises there are long-term challenges to Australia's food supply. These challenges include a changing climate, competition for water and land, natural disasters and a slowing rate of agricultural productivity growth.

However, food security is not just about the physical availability of food. Food must also be affordable and this remains an issue for lower income households, particularly accessing the foods required to deliver a healthy diet. Governments in Australia have promoted food affordability for all Australians by encouraging competition in the food industry and trade in food products, which helps put downward pressure on food prices. In addition, disadvantaged individuals are supported through income support and other programs such as those providing nutritional advice.

While domestic agricultural production will continue to be an important part of most countries' food supplies, attempting to achieve food self-sufficiency is not without risks, practical or economically beneficial. Even efficient surplus food producers like Australia suffer from droughts and other natural disasters, disease outbreaks and crop failures that can expose parts of the population to temporary food insecurity. Easy trade in food products between nations can help reduce the impact of such disasters by providing a more certain food supply for all countries.

Australia has recently experienced a number of natural disasters where the food industry has demonstrated a strong capacity to maintain supply in significant regional emergencies. However, there are risks it could face challenges in the event of a significant national emergency such as a severe pandemic, or a multi-jurisdictional natural disaster.

- *For more information on Australia's food security and food continuity in a crisis see section 3.2.*

## Nutritious and safe food supply meeting consumer needs

When addressing food supply issues, it is not enough to focus solely on quantity—the quality of foods and beverages must also be considered. From a nutrition perspective, a high quality food supply is one that meets all the nutritional requirements of the population, while helping to protect against obesity and diet-related disease. Good nutrition is an important contributor to health and wellbeing. Poor nutrition is responsible for around 16 per cent of the disease burden in Australia and is implicated in more than 56 per cent of deaths. Poor nutrition is likely to be one of the drivers of higher mortality rates for Indigenous Australians, particularly in remote areas.

In addition to individual health benefits, the quality and quantity of foods consumed by a population contribute to economic and social wellbeing. Investing in nutrition can reduce health care costs through decreased rates of illness and disease. As such, it is vital that Australia's food supply provides a range of foods to meet the nutritional needs of all Australians, including disadvantaged and vulnerable groups.

- *For more information on diet and nutrition see section 4.1.*

Australia has one of the safest food supplies in the world. Food safety incidents cause serious illness, can undermine confidence in the safety of the food supply and affect access to export markets. Unsafe food causes many acute and lifelong diseases, ranging from diarrhoeal disease to various forms of cancer. The annual cost of foodborne illness is estimated at

$1.2 billion, with productivity and lifestyle costs ($770 million) being the main component, followed by early death ($230 million) and health care services ($220 million).

Australia's risk-based approach to managing production of safe food and regulating food safety is in line with international agreements and best practice. Australia supports objective, science-based risk analysis that focuses on public health and safety. The pre-eminence of science in developing food standards and validating their effectiveness is fundamental to ensuring the safety of the food supply.

Australia's food regulation system is a cooperative arrangement between the Australian Government, state and territory governments and New Zealand.

▶ *For more information on safe food see section 4.2.*

Consumer desire for readily available, affordable, convenient and safe foods is influencing food supply chains globally and locally. Consumer choices affect what Australia produces and how it is produced and marketed. One important trend is that consumers are increasingly seeking information about the attributes of their food, including the nutritional benefits, production methods and environmental sustainability. Empowered and informed consumers drive innovation and competition in well-functioning markets.

The government's policy is to allow businesses to meet consumer preferences, provided food is safe and product claims comply with Australian consumer laws. Australia's consumer laws give consumers basic protection from misleading and deceptive conduct and representations and guarantee basic product quality and product safety. These broad rules are enhanced through specific food regulation under the *Australia New Zealand Food Standards Code*, which provides for specific rules on the content, processing, packaging and labelling of food products.

Governments, public health groups and industry have an important role in raising consumer awareness of the nexus between food and health, and creating incentives for nutritious food choices.

▶ *For more information on changing consumer choice and expectations see section 4.3.*

## A competitive, productive and efficient food industry

A competitive, productive and efficient food industry benefits Australians in many ways. These include providing employment, supporting profitable businesses, contributing to active regional and urban communities, catering to diverse consumer expectations and providing food to support health and wellbeing. A range of government initiatives are designed to encourage a competitive, productive and efficient food industry.

Competition in the Australian food sector ensures efficient use of resources and encourages rapid uptake of new technologies. Competition provides incentives for businesses to be productive and innovative, leading to greater benefits for all Australians. The Australian Government has taken a number of steps to increase competition in the retail food sector.

In Australia major supermarkets account for around half of the fresh produce market. Central markets, community and farmers markets, an evolving food services sector and specialty outlets provide consumers and producers with further choice.

Some stakeholders are concerned that recent price competition between major supermarkets, which places downward pressure on grocery prices, may affect prices received by producers.

How this price competition affects food producers depends on factors such as structure of the industry and bargaining power of producers with food processors and retailers.

- *For more information on competition see section 5.1.*

Growth in the productivity of the Australian food industry ensures they remain internationally competitive. This is crucial for a small, open economy like Australia's, which is highly dependent on trade, particularly exports. Government policy aims to promote productivity growth in the food industry through investment, innovation, infrastructure, labour, water and land reform, biosecurity and regulatory reform.

Productivity growth in Australian agriculture has been strong relative to other sectors of the economy and comparable to other developed countries. Historically, productivity in the agriculture, fisheries and forestry sectors has risen by an annual average rate of 2.2 per cent since 1974 but growth has slowed since the mid-1990s. Productivity in manufacturing, which includes food processors, has grown by 1.3 per cent a year over the past 10 years.

Regulatory reform is a key way that governments can help improve business productivity. A range of Australian, state and territory government regulations affect production, processing, delivery and consumption of food and beverages. Regulations apply to land use, environmental protection, animal welfare, licensing, quarantine and export, food safety, packaging and transport.

In market economies regulations play an important role in ensuring free enterprise meets society's general expectations. However, regulations can sometimes fail in their objectives, or are complex or inconsistent across jurisdictions, which can impose unnecessary compliance burdens on business. The government's Better Regulation Agenda aims to reduce the regulatory burden and cost for business, government and the community.

- *For more information on business regulation see section 5.2.*

Domestic and foreign investment is important to expand the economy and improving living standards over the medium to long-term. The government welcomes foreign investment, which has helped build Australia's economy and will continue to enhance the wellbeing of Australians. The government also recognises community concerns about foreign ownership of some Australian assets and, through its foreign investment policy, seeks to balance potential sensitivities with economic benefits. The government is acting to strengthen transparency of foreign ownership of rural land and agricultural food production.

- *For more information on investment see section 5.3.*

Infrastructure and logistics supply chains are critical for the food industry, and investment in private and public infrastructure can contribute to productivity improvements, from primary production through processing to retail sale. Land freight, for example, is growing and expected to double by 2030 from the current 515 billion tonne kilometres. The government is investing in infrastructure and working to improve infrastructure services generally through national reforms. In the six years from 2008–09 to 2013–14 the Australian Government will have invested nearly $37 billion in infrastructure.

- *For more information on infrastructure see section 5.4.*

Traditionally, cost efficiencies achieved through innovations have helped improve competitiveness in Australia's food sector. As resource constraints tighten and demand intensifies adoption of technology and innovation in production, product development, distribution and marketing will be increasingly important to remaining globally competitive and meeting consumer needs.

The government encourages sustainable growth of Australian industries through a national innovation system that drives knowledge creation, use of the latest science and research, international competitiveness and greater productivity, while improving social and economic benefits for the Australian community.

- *For more information on innovation see section 5.5.*

Securing enough suitable labour and improving the skills and productivity of the workforce is a major challenge for the agriculture and food sector, and affects all parts of the supply chain. Flexible labour, education and training markets are critical for supporting economic adjustment and ensuring broad wages growth in line with productivity improvements.

A number of factors make it difficult for the food industry to satisfy its labour needs, particularly in food production. These include competition from other industries, poor promotion of the industry, an ageing population, low numbers of agricultural graduates, poor awareness of agricultural career pathways and the limited workforce planning capabilities in many agriculture enterprises.

The government is investing to improve the supply and skill levels of the workforce and to encourage participation in education and training so as to help meet labour shortages. This includes a new partnership with industry to meet the needs of the economy for the most critical emerging skills and national reform of vocational education and training to meet future skills needs.

- *For more information on education, labour and skills see section 5.6.*

Australia remains free from many pests and diseases that affect agriculture, natural and built environments, and people in other parts of the world. This favourable biosecurity status confers significant economic, environmental and community benefits and safeguards on what matters most—Australia‘s people, environment and businesses.

However, risks to Australia‘s biosecurity status are increasing from various channels, including the growth in passenger and trade volumes, importation of new and different products from more countries, changes to pest and disease pathways as a result of climate change, and population growth and spread and shifting demographics.

The government works to minimise the impact of pests and diseases, while encouraging trade and movement of people and goods to, from and within Australia in line with international agreements and obligations.

- *For more information on biosecurity see section 5.7.*

Access to clean, safe and reliable water supplies is critical to efficient food production and processing. Agriculture uses 66 per cent of Australia‘s water, and food processing a further 1 per cent. The government recognises the need to improve water management for agriculture, particularly in the Murray–Darling Basin with its variable rainfall and high concentration of water-dependent industries, and is trying to help farmers adapt to reduced water availability in a changing climate.

- *For more information on water see section 5.8.*

Like water, access to productive agricultural land is also critical for food production. Competition for agricultural land can occur from a number of other uses such as mining and urban development. Decisions on land-use planning and zoning and the granting of mining licences are primarily a state, territory and local government responsibility, though the Australian Government has a direct role when proposed developments are likely to have an impact on matters of national environmental significance.

In response to community concerns about the loss of farming land, some states have developed, or are reviewing, policies to protect prime agricultural land. The government encourages state and local governments to develop policies to sensibly manage competing land uses.

- *For more information on land see section 5.9.*

## Sustainable food industry

Food production depends on and affects communities, particularly in regional Australia. The government is committed to improving social, economic and environmental conditions for all of Australia's regions, in collaboration with local communities.

Over 90 per cent of employment in the food production industries (that is, agriculture, aquaculture, fishing, hunting and trapping) and 43 per cent of employment in the food processing industries are located in rural and regional areas. The broader food industry represents 16 per cent of employment in regional areas compared with only 6 per cent in major cities.

The government is supporting regional communities through national investment programs and targeted regional investment programs, including $4.3 billion of regional investment in the 2011–12 Federal Budget.

- *For more information on the social and economic sustainability of communities see section 6.1.*

Long-term food security and sustainable food production requires that food production be environmentally sustainable and safe. The capacity of natural resources, including fresh water, clean air and biodiversity, to provide food and other ecosystem services will influence development of the food industry over the short and long-term. Climatic factors, including increasing temperatures, changing rainfall patterns, droughts and extreme weather events, may pose a challenge to ongoing agricultural productivity growth.

The government is investing in maintenance and improvement of natural resources and recognises the contribution by farmers, fishers, industries and the community. The government's investment priorities are based on cost effectiveness and prevention of environmental degradation. It is working through a number of programs with industry and the community to help farming and fishing enterprises improve their knowledge and skills and management practices to promote sustainable resource management.

- *For more information on the role of natural resource base and biodiversity see section 6.2.*

The global importance of the agriculture sector means actions to manage climate change must also consider the growing demand for food in a carbon constrained world. In its position paper, *Adapting to climate change in Australia*, the government has identified agriculture as a national priority. The government's Carbon Farming Initiative will provide benefits for landholders who reduce their greenhouse gas emissions. More generally, the government is committed to putting a price on carbon to create an incentive to reduce emissions, drive investment in renewable and low emissions technologies, create certainty for business investment and begin adjusting Australia's economy to a cleaner energy future.

- *For more information on climate change see section 6.3.*

The food industry is increasingly demonstrating environmental performance credentials to meet national and international obligations and consumer preferences for food including how

it is produced, transported and sold. The Australian Food and Grocery Council identified 76 per cent of its member companies as having an environmental policy, 49 per cent as having an environmental management system and 71 per cent as employing a full time environmental manager.

- *For more information on the environmental performance of the food supply chain see section 6.4.*

## Maximising the benefits of trade

Australia is a relatively small but important exporter of quality food commodities and products, feeding over 30 million people a year. Its agrifood exports have been valued at around $25–30 billion a year in recent years (2005–10), resulting in a significant trade surplus and accounting for about 15–18 per cent of Australia's annual merchandise exports. International trade is crucial to maintaining Australia's economic prosperity, employment growth and rising living standards. The government's key trade policy objectives are to maintain access to open markets and liberalise access to other markets.

Exposing businesses to global competition is good trade policy and sound domestic economic policy. Openness to trade keeps the cost of farming inputs low and drives economic reform as Australia's competitors find new ways to reduce costs and improve quality through innovation, which obliges Australian companies to match or better them.

- *For more information on international trade see chapter 7.*

## Next steps

The government is seeking feedback from stakeholders through written submissions. It intends drawing upon ideas and suggestions to develop policy options for a national food plan, but not formally responding to specific submissions or issues.

All stakeholders are invited to provide a written submission—appendix 1 explains how to write and lodge a submission.

The closing date for submissions is 5 pm Australian Eastern Standard Time, Friday 5 August 2011.

You can find more information by visiting www.daff.gov.au/nfp

# 1. Introduction

The scope and nature of Australia's food supply is being shaped by global and local forces such as global population growth, differing economic growth rates among countries, climate change finite natural resources and the increasing burden of obesity and chronic disease due to poor nutrition. Over the coming decades these forces will present both risks and opportunities to individuals and businesses involved in making, moving and selling food—and to all of us as food consumers.

Governments, businesses, consumers and other groups and individuals are responding to these forces in many ways—for example businesses adapting their plans in response to changing markets. Australian governments have an extensive range of general economic policy measures and programs, regulations and other initiatives that respond to these forces and affect the food supply and demand. The Australian Government has not, however, defined an overarching approach to food policy. The government believes that an overarching approach will help protect and improve Australia's enviable food security status and support population health outcomes, among other things, and has committed to developing a national food plan to address these needs.

## 1.1 Purpose of this issues paper

Release of this issues paper is the first step in developing a national food plan. Through consultation on this paper the government is seeking feedback from all stakeholders on what a national food plan should cover and aim to achieve.

The government recognises that improvements could be made to its current approach to food policy, for example by addressing any gaps, overlaps or inconsistencies, or explaining its policies in a single framework. This issues paper provides a focus for consultation about possible improvements. It outlines policy drivers, current food and nutrition policies (including key programs and other initiatives) and other background information. The government seeks your feedback on this paper to help create a suite of ideas and possible options for a national food plan. In addition your feedback may help other food stakeholders decide what actions they could take independent of government to make a difference for food businesses and consumers.

The Australian Government recognises the wide range of work by governments and other stakeholders on food and nutrition-related initiatives. In developing a national food plan the government does not seek to replicate past or ongoing policy processes or other initiatives, but to work on drawing linkages between them. Stakeholders wanting to provide feedback on specific policy issues being considered elsewhere—such as the national policy response to the Blewett review of food labelling law and policy—should do so through the relevant avenues or consultation opportunities.

## 1.2 Purpose and scope of a national food plan

In its 2010 election commitment the Australian Government indicated that the key aims for a national food plan were to integrate food policy by looking at the whole food supply chain, to protect Australia's food security, and to develop a strategy to maximise food production opportunities. It also outlined a wide range of issues it would consider when developing a national food plan.

Australia is food secure and should seek to remain so. And while Australian governments have many policies and programs that affect food supply and demand these can sometimes work against each other. Greater coordination and clarity of goals will help Australia

maintain its enviable food security status, improve the quality of its food, support population health outcomes and build a competitive and vibrant industry.

The government envisages that a national food plan will outline the Australian Government's vision for the food industry and consumers, to guide Australian Government actions and provide certainty for other stakeholders. A national food plan, when finalised, would seek to better explain and better integrate Australia's approach to food policy, from production through to consumption, and be consistent with the government's market-based policy approach and commitment to fiscal discipline.

It is important that Australia fosters an innovative, efficient, competitive and sustainable customer-focused food industry to ensure Australia's food security and contribution to global food security. Potential benefits may include a more affordable and nutritious food supply with a reduced environmental footprint and opportunities for growth in regional economies.

In developing a national food plan the Australian Government will bring farmers, manufacturers and processors, distribution and logistics companies, retail and food service companies, consumers, public health professionals, and agricultural and food scientists together to develop a common understanding of the strategies needed to maximise Australia's food production opportunities while minimising risks.

One key objective of a national food plan would be to improve productivity by identifying potential policy and regulatory reforms across the food chain, consistent with Australia's high levels of food safety.

In articulating a whole-of-chain approach the government hopes to identify:

- domestic and international food security threats and opportunities
- issues that affect food affordability
- how to support the nutritional requirements of the Australian population and help address the burden of obesity and diet-related disease
- sustainability of Australia's food systems, at all points along the food supply chain
- how to ensure appropriate economic, taxation, labour market and education policy settings for a robust food supply chain.

## 1.3 Outline of next steps

The Australian Government will seek stakeholder feedback through written submissions. The government intends to draw on the ideas and options provided during consultation to help develop policy options for a national food plan.

All stakeholders are invited to provide a written submission—appendix 1 explains how to write and lodge a submission. The closing date for submissions is 5 pm Australian Eastern Standard Time (EST) Friday 5 August 2011.

You can find further information by visiting www.daff.gov.au/nfp

## 1.4 Overarching questions for consultation

To help focus consultation, this issues paper poses questions to which you may respond. The overarching questions below serve as a guide to the areas upon which the government is particularly seeking your views. They are intended to be general (not comprehensive) and align with the scope of the government's commitment to developing a national food plan. If you have an interest in specific issues, detailed questions are included in chapters 3 to 6. Appendix 2 lists all the questions in the issues paper. Answer the overarching questions noting that the terms 'food supply' and 'food industry' refer to all parts of the food supply chain from paddock to plate.

1. What is the most important thing you think a national food plan should try to achieve?

2. What do you think the vision and objectives for a national food plan should be?

3. What do you see as the major risks to Australia's food supply in the coming years and decades? How could they be avoided or managed more effectively?

4. What does food security mean to you? How would this be achieved? How would we know if/when we are food secure?

5. What are the most important benefits that Australian consumers get or should get from our food supply? Why?

6. What two or three actions:
   - by the government sector would most benefit food consumers?
   - by the non-government sector would most benefit food consumers?

7. What do you see as the major opportunities for Australia's food industry in the coming years and decades? How could they be realised?

8. What two or three actions:
   - by the government sector would most benefit businesses that make, distribute and sell food?
   - by the non-government sectors would most benefit businesses that make, distribute and sell food?

9. What specific food policy and regulatory functions within or between governments:
   - overlap?
   - are at cross-purposes?
   - have gaps?

10. Which regulation or regulatory regime poses the greatest burden on the food industry along the food supply chain (production, processing/manufacturing, transport and logistics, wholesale, retail)? What could be done to reduce this burden?

11. What two or three actions:
   - by the government sector would most benefit communities that are highly dependent on food production, processing, distribution or sale?
   - by the non-government sector would most benefit communities that are highly dependent on food production, processing, distribution or sale?

# 2. Current approach to food policy

## 2.1 General policy drivers

Actions by businesses, governments, individuals and other groups are influenced by forces of change, referred to here as drivers. These drivers affect both demand (consumers) and supply (businesses) across the whole food supply chain. They may present challenges and opportunities for Australia's food industry in meeting the needs of diverse and changing consumers in different markets.

They fall broadly into the categories of food supply drivers and food demand drivers, and include social considerations.

### *2.1.1 Food supply drivers*

- Food supply drivers include rate of agricultural productivity growth, climate change, water, land and labour availability, restrictive trade policies (global), natural resource endowments, biosecurity status, globally competitive markets for many food products and production inputs (particularly consumables and capital).
- Natural resource (such as irrigation water) and environmental challenges (such as climate change, heat waves, frosts, reoccurring floods and droughts) potentially present difficulties for the food industry, particularly primary producers. An ongoing challenge is to devise effective policy responses that also allow growth in production and productivity of the entire food sector.
- Variable growth rates in the domestic economy are likely to present ongoing challenges for policy makers and some domestic industries, including food. A key driver for the food industry is likely to be competition with the mining and resources sector for capital and labour. International currency fluctuations will also influence the value of imports and exports, and capacity constraints and cost pressures, such as road and rail infrastructure and ports and shipping, may present challenges for the food sector.
- Natural disasters and adverse weather conditions can seriously damage agricultural production, potentially exposing populations to hardship or transient food insecurity. For example, when geographically localised industries, such as the banana industry, that produce a significant proportion of national output are affected by extreme weather events, consumers can be exposed to higher prices and limited choice that result in reduced consumption.

### *2.1.2 Food demand drivers*

- The major food demand drivers are primarily global, including population growth, demographic change, changing economic growth and food consumption patterns, non-food use of food commodities.
- Over the past half century the growth in global demand for agricultural products for both food and non-food uses (such as biofuels) has been dramatic. Advances in science and technology in food production, processing and distribution have enabled agricultural and food production to meet the growing level of demand. Global farm production is more than sufficient to feed the current world population.

- Despite being able to meet food demand, approximately 1 billion people around the world suffer chronic hunger; the Asia–Pacific region being home to the largest number—578 million (FAO 2010 estimate).
- Global food production will, however, need to increase substantially to feed a projected world population of 9.3 billion by 2050 (UN DESA 2011). While past experience shows food production exceeding population growth, there are significant challenges to maintaining production (and productivity) growth. Forecast increases in global income levels (and an associated shift to higher protein diets), an increasing trend in urbanisation, improved transportation and communication networks, and a more informed population seeking nutritious and safe food will all place additional demands on food resources.
- Consumer desire for readily available, affordable, convenient and safe foods is shaping food supply chains, with major differences between developed and developing economies.
- Australia's diverse population also contributes to diverse food needs. Some consumers are increasingly demanding more information about food products, their nutritional attributes and how they are produced, including environmental management (such as carbon footprint) and workplace welfare conditions (such as fair-trade standards) or organic food production.
- Changing consumer desires also include cultural or religious requirements (such a halal or kosher food) or medical needs (such as information about food allergens).
- While technological innovation in its many forms is critical for improving productivity from paddock to plate, there is some consumer concern about use of some new technologies (such as genetic modification and nanotechnology) in food production and food products.

## 2.2 Current approach to economic and food policy

- The government's approach to food policy fits into a broader set of policies that facilitate a sound and stable economic environment. These are the macroeconomic settings, such as fiscal and monetary policy settings; microeconomic policies, such as the consumer and trade practices framework; financial prudential regulation; and a comprehensive health and social welfare system. These support commercial activity generally, while addressing significant market failures and achieving other social objectives. Apart from the general policy settings outlined above, the government is addressing food policy in a variety of direct and indirect ways.
- The government fosters a low-risk economic and legal environment in which business can be conducted. It also provides intangible infrastructure, such as broad-based consumer protection and trade practices measures, and tangible infrastructure, such as roads, rail, harbour facilities and telecommunications.
- A number of Australian Government portfolios are involved in policy and programs related to the food supply, relating not only to the food industry, but broader economic, social and environmental policy areas. The acknowledgement section of this paper lists the relevant portfolios. Some portfolios include bodies that regulate the food industry in direct or indirect way, from producers to consumers and related industry sectors. These include:
  - Australian Competition and Consumer Commission
  - Australian Customs and Border Protection Service

- Australian Fisheries Management Authority
- Australian Maritime Safety Authority
- Australian Pesticides and Veterinary Medicines Authority
- Australian Quarantine and Inspection Service
- Australian Transport Safety Bureau
- Civil Aviation Safety Authority
- Climate Commission
- Director of National Parks
- Export Finance and Insurance Commission
- Fair Work Australia (and other related bodies)
- Food Standards Australia New Zealand
- Great Barrier Reef Marine Park Authority
- IP Australia (and other related bodies)
- Murray-Darling Basin Authority
- National Industrial Chemicals Notification and Assessment Scheme
- National Measurement Institute
- National Transport Commission
- National Vocational Education and Training Regulator.
- National Water Commission
- Office of Best Practice Regulation
- Office of the Gene Technology Regulator
- Safe Work Australia (and other related bodies)
- Therapeutic Goods Administration
- Wheat Exports Australia

- The Australian Government collaborates with state, territory and international governments to address many food policy issues. State and territory governments have constitutional power to address many aspects of food policy where this requires regulation across the food supply chain (table 1). Also see section 5.2 Business regulation and appendix 3 for details. Local governments also provide an increasingly broad range of infrastructure, economic and community services to the community, involving the food sector.
- All sectors and stages along the food supply chain are subject to both Australian Government and state/territory regulation. Table 1 summarises the range of regulatory areas that apply to the food supply chain through to consumption. Much regulation affects multiple stages of the food chain but in the table each regulation area is mentioned only once. The groupings in the table are therefore not strictly food chain stages but broad activities or themes, including a catchall ‚general' group.

**Table 1: Regulations affecting food supply and consumption**

| Activity | Key Australian Government regulation | Key state/territory government regulation |
|---|---|---|
| Land use and environment | • environmental protection<br>• international treaties and conventions covering world, natural and cultural heritage and marine protected areas<br>• National Pollutant Inventory<br>• water access and regulation | • environmental protection/assessment and native vegetation legislation<br>• land use, planning and building<br>• weed and vermin control<br>• water access and regulation<br>• fire control |
| | • Aboriginal land rights/native title | • laws relating to Indigenous Australian's cultural heritage including native title |
| Primary production | • licensing and approval of chemicals, fertilisers and pesticides<br>• fisheries | • use of chemicals, fertilisers and pesticides<br>• livestock and animal welfare<br>• fishing/aquaculture licensing and permits<br>• boating regulations and licensing<br>• fishing equipment and port requirements<br>• fisheries landing and marketing requirements (size limits) and by-catch<br>• fisheries restricted areas |
| Biosecurity | • quarantine and biosecurity<br>• export certificates/controls<br>• export approval for wildlife trade | • domestic quarantine and biosecurity<br>• pest/disease/weed control |
| Food and packaging | • food and packaging standards (national and international) | • food safety regulation including primary production and processing food<br>• certification and labelling packaging requirements |
| Transport | • national land transport regulatory frameworks<br>• shipping and maritime safety laws and international maritime codes and conventions<br>• fuel tax | • transport including vehicle and machinery licensing<br>• government owned public/private transport infrastructure<br>• transport access regimes |
| General | • industrial relations<br>• immigration<br>• competition laws/access regimes<br>• marketing legislation<br>• WTO obligations<br>• market access and trade and investment agreements | • industrial relations<br>• occupational health and safety legislation and policy<br>• insurance requirements<br>• interstate certification arrangements (marketing) |
| | • foreign investment screening regime<br>• taxation | • taxation |

Source: Productivity Commission 2007, *Annual Review of Regulatory Burdens on Business: Primary Sector*, Productivity Commission Research Report, Canberra.

- Food policy is coordinated within and between governments (and the private sector) through a range of formal and informal mechanisms. A key formal mechanism used by the Australian Government to coordinate policy is the Cabinet along with both formal and informal arrangements between portfolio departments. Similarly, governments coordinate nationally through standing arrangements established through the Council of Australian Governments along with informal mechanisms.
- One stakeholder concern about food policy is that it is not sufficiently coordinated or consistent, and some have suggested formal mechanisms should be instigated to address this. One example cited is the United Kingdom which established a Cabinet sub-committee dedicated to food policy.
- Appendix 4 provides information on past reviews and initiatives that may further aid consideration of aspects of a national food plan that are important to you.
- In addition to the general policy settings outlined above, the government is addressing food policy in a variety of direct and indirect ways. The Australian Government's food-related policies, and other initiatives and frameworks are detailed in chapters 3 to 7 of this paper.

### *2.2.1 Question for consultation*

12. Do you think that the development and implementation of government policies related to food are adequately coordinated? If not, please explain why and provide examples. What mechanisms could the government consider that might address your concerns?

# 3. Food security

The United Nations Food and Agriculture Organization's 2009 World Food Summit reaffirmed the 1996 World Food Summit's definition of food security, namely:

> When all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO 2009).

This definition identifies three main dimensions of food security: physical availability, economic and physical access, and the stability of availability and access over time.

Discussion of food security operates at several levels:

- at the **global level,** where the issue is the capacity of the world as a whole to produce and effectively and fairly distribute sufficient supplies of food
- at the **national level**, where the issue is the capacity of each country to secure sufficient food to meet the needs of its population in general
- at the **community level**, where communities, for geographical or other reasons, may have difficulty in accessing food in a country that has sufficient access to food overall
- at the **individual level**, personal income is one factor that affects food security.

## 3.1 Global food security

### *3.1.1 Issues and drivers*

Food availability and affordability are key interrelated contributors to global food security.

#### *Food availability*

- Over the past half century there has been an exponential increase in global demand for agricultural products for food and non-food uses (such as biofuels). However, science and technology developments relating to food production have enabled agricultural and food production to meet growing demand (Fisher et al. 2010). Production is currently more than sufficient, at the farm level, to feed the world's population. However, food availability is uneven over seasons and geographically. Effective storage and trade is critical in making food available across the global population at all times.
- Food is a perishable commodity and global food waste can be significant. Although a firm evidence base from which to assess global food waste is lacking. There is, therefore, no consensus on the proportion of global food production currently lost. Estimates range between 10 and 40 per cent of total global food production and in some cases as high as 50 per cent (Parfitt et al. 2010).
- Despite the steady growth in food production and the overall production surplus about 1 billion people around the world now suffer chronic hunger with the Asia–Pacific region home to the largest number—578 million (FAO 2010).[1]
- While sufficient food is produced at a global level people continue to suffer chronic hunger because of inequality in food purchasing power owing to poverty and inefficiencies and waste in distribution systems. Food distribution systems are further compromised in some regions by political instability, corruption and war.

- Chemicals such as pesticides, antibiotics and hormones (applied in accordance with international and national food safety standards) are used in plant and animal farming to boost production and ensure an adequate food supply.
- Global yields for the three key grain crops—wheat, maize and rice—increased by an average of 43 kilograms per hectare a year over the five decades from 1960 to 2010, although the rate of increase in yield declined over the period—from 3.2 per cent a year in 1960 to 1.5 per cent a year in 2000 (Parfitt et al. 2010).
- Global food supply needs to increase dramatically to meet the demands of a projected world population of 9.3 billion by 2050 (UN 2011).
- Estimates indicate that the world will need to increase overall food production by 70 per cent by 2050 compared to the average level of 2005–07 (FAO 2009). These projections include a 50 per cent increase in grains for food and livestock feed, but do not consider likely further growth in demand for grains—quite apart from similar demand growth for oilseeds and sugar cane—for biofuel feedstock (that is, biological material used for biofuel production).
- Demand for other foods arising from dietary changes due to per capita income growth primarily in China and India, such as livestock and dairy products and vegetable oils, is projected to grow much faster than for grains (FAO 2009).
- The world is expected to become more urbanised, with an estimated 69 per cent (6.3 billion) of the world's 9.3 billion population living in cities by 2050 (UN 2011).
- While there is scope to increase efficiency and reduce waste in the food distribution system, the world will also need to increase agricultural and food production. These gains will need to be found despite the potential effects of climate change and rising costs of energy and other inputs; slowdown in yield growth of staple crops attributed to the general decline in agricultural research and development (R&D) over recent decades; and achieving more sustainable agricultural, aquaculture and fishery practices.
- Globally, natural disasters and adverse weather conditions can seriously damage a country's or a region's agricultural production. While domestic agricultural production will continue to form a significant part of most countries' food supplies, food self-sufficiency is not practical, economically advantageous or without risks. Even efficient and surplus producers like Australia can suffer drought, disease outbreak, crop failure and natural disaster, which could expose parts of the population to transient food insecurity. Open, efficient and reliable domestic and international agricultural and food markets can spread the risk and mitigate the adverse effects of such disasters by providing a level of food security insurance for all countries.
- Fertilisers are essential inputs to Australian agriculture. From 2001 to 2009, fertiliser imports amounted to around 56 per cent of the phosphatic fertiliser used, 77 per cent of the nitrogen used and 100 per cent of the potassium used (ABARES 2010).
- New _plant varieties for high inputs'—geared toward more efficient use of water, herbicides, fungicides, pesticides and land surface area—are also being developed within Australia. Emerging technologies, such as next generation genetic sequencing, could accelerate such developments in plant and livestock breeding.
- At the present rate of extraction and current usage patterns, the global reserves of phosphates that can be economically extracted would be sufficient for around 100 years. Additional reserves, which cannot be economically extracted at present, amount to several times that quantity, and large undersea reserves are also known to

exist (US GS 2010). In the longer term, more efficient application of fertilisers and development of new plant varieties offer scope to reduce usage, while recycling and development of additional reserves are likely to become viable as prices increase and extraction technology improves.

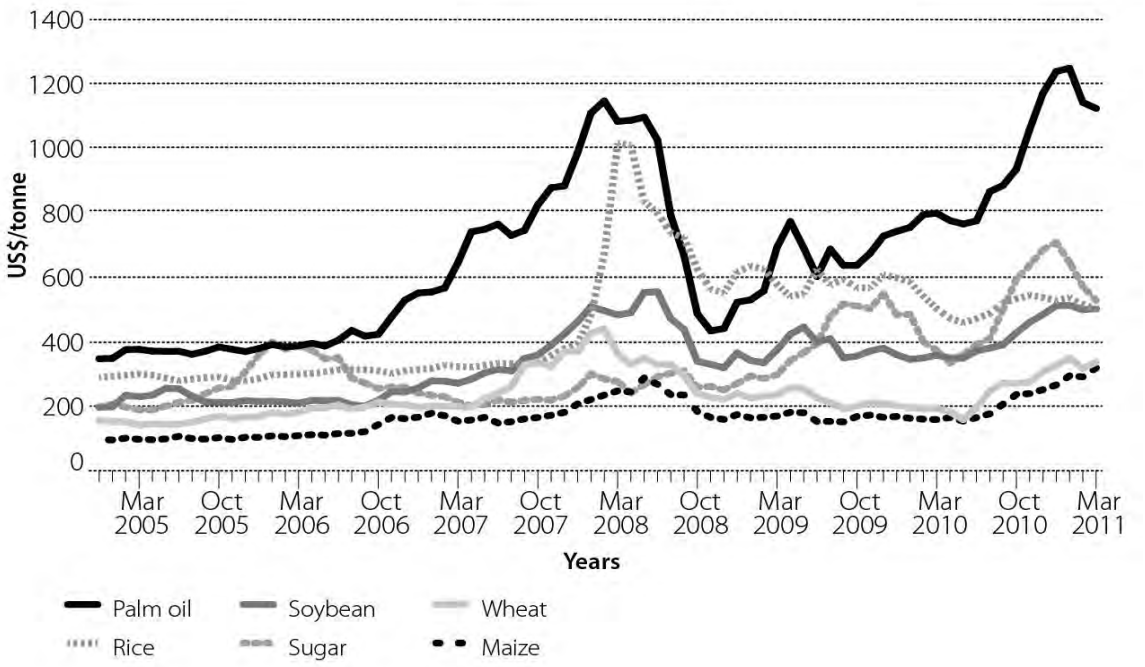
- Energy, including fuel for agricultural production and transport and electricity for manufacturing and processing, is an essential input along the entire food supply chain. The price of energy will therefore affect the price of food production inputs along the chain as well as finished food prices.
- The long-term availability of inputs such as fertilisers and energy for food production relies on various factors including functioning markets.
- Australia is a small, yet significant global supplier of a number of commodities (Morris 2010). As 50 per cent of Australia's total production is exported, it is an important contributor to global food availability, especially for net food importing countries (for further details see appendix 5).

### *Food affordability*

- Poverty is the fundamental cause (and effect) of food insecurity. The World Bank estimates that three-quarters of the 2 billion people living on less than US$2 a day reside in rural areas and depend on agriculture to some extent for their livelihoods.
- For the rural poor of the world, reform of the distortions in global agricultural and food markets and better opportunities to lift their agricultural output and share of global supply, would allow them to benefit from periods of high prices. Such market and trade reform is a crucial part of improving the income and food purchasing power of the rural poor. The low prices that prevailed for most of the 30 years before the 2007–08 price spike worsened the situation for the rural poor in low-income countries. Low prices (caused in part by public subsidies in a number of developed countries) pushed these farmers out of the market and into poverty since agricultural development is their primary avenue out of poverty (World Bank 2007).
- High global food prices also have a severe effect on the urban poor in low-income countries. Increases in the costs of energy, housing and infrastructure may increase existing urban poverty unless economic opportunities can grow at a faster rate. There is also concern that excessive food price volatility can cause food security challenges for poorer developing countries which may in turn contribute to civil unrest or humanitarian needs. However, some degree of price volatility is a normal feature of efficient international food markets, reflecting variations in demand and supply. Price changes send market signals to farmers to increase or decrease production in response to changed market conditions. Higher prices provide incentives to increase production which contribute to global food security.
- Following the 2007–08 global food price spike, key forecasters—including the Organisation for Economic Cooperation and Development (OECD), United Nations Food and Agriculture Organization (FAO) and World Bank—stated their expectation that food prices would stay relatively high for at least 10 years.
- The 2007–08 food crisis was made worse by the actions of a number of countries as they attempted to protect domestic markets. The FAO urged countries to consider the potentially harmful effects on global food security of seemingly attractive short-term measures, such as export restrictions (FAO 2011).
- After some moderation of global food prices with better harvests in 2008–09, international prices of basic food commodities have again been rising since mid 2010

(figure 1). This is due to a range of long and short-term factors including continuing global demand and recent supply shortfalls. Rising food prices have been fuelling food inflation in a number of developing economies (ADB 2011).

**Figure 1: Global staple food commodity prices, January 2005 to March 2011 (US$ per tonne)**




*Notes*: These prices are based on Wheat: US No. 1, Hard Red Winter, free on board (FOB) US Gulf of Mexico; Maize: US No. 2, Yellow, FOB US Gulf of Mexico; Rice: Thai 5 per cent broken, FOB Bangkok; Soybeans: US No. 2, Yellow, Chicago futures contract (first contract forward); Palm oil: Malaysia palm oil futures (first contract forward), 4–5 per cent free fatty acids; Sugar: ICE contract No. 11 (nearest contract forward), US cents per pound converted to US$ per tonne by DFAT.
*Source*: IMF 2011, *Primary Commodity Prices Database*, International Monetary Fund, Washington DC.

### *3.1.2 Current Australian Government approach*

- Australia has an important role to play in responding to the immense global challenge of improving food security. Australia pursues a comprehensive approach to improving global food security, implemented through multilateral, regional and bilateral channels, which focuses particularly on:
  - short-term emergency food assistance to those most in need
  - increased development assistance for medium and long-term food security and rural development through:
    - increased investment in agricultural R&D, including adaptive research and farm management systems, to improve agricultural productivity and environmental sustainability
    - improved rural livelihoods through markets that benefit poor people
    - improved community resilience through social protection
  - provision of bilateral, regional and multilateral investment and trade-related development assistance that supports developing countries‘ participation in the multilateral trading system and regional initiatives
  - advocacy and support for appropriate economic and trade policies at global, regional and national levels, together with good governance.

- The Australian Government has committed to a four-year $464 million Food Security through Rural Development Initiative, announced in the 2009–10 Federal Budget including ongoing investments in international rural development with particular focus on:
  - stimulating agricultural productivity through more effective agricultural R&D[2]
  - improving rural livelihoods through interventions to make markets work better for poor people
  - supporting social protection measures to build the resilience of vulnerable communities most likely to go hungry in times of crisis.
- Australia advocates and supports efforts to reform global markets to help revitalise global food production and boost economic growth and incomes in many developing countries, so reducing poverty and increasing incomes and food purchasing power and improving global food security.
- Australia is committed to active and constructive engagement in a wide range of multilateral and regional institutions concerned with food security. These include:
  - the United Nations (UN) and its various agencies like the FAO and the Committee on World Food Security (CFS)
  - the Group of Twenty (G20) finance ministers and central bank governors
  - the World Bank, regional development banks and the International Monetary Fund (IMF)
  - the World Trade Organization (WTO)
  - the Consultative Group on International Agricultural Research (CGIAR) system
  - the Asia–Pacific Economic Cooperation (APEC) forum
  - the East Asian Summit.
- Australia is a key proponent of the G20 and is strongly engaged to ensure the group‘s outcomes align with Australia‘s approach to food security, including increased agricultural productivity and trade reform.
- Australia is committed to the right to food as a part of its obligations under the International Covenant on Economic, Social and Cultural Rights (ICESCR) and other international human rights treaties.
- Australia advocates a practical approach to realising the right to food and improving global food security that takes into account the benefits that can accrue from good economic and trade policies which improve incomes and reduce poverty, and increase global food supplies.

## 3.2 Australia's food security

Australia is food secure and produces enough food today to feed approximately 60 million people (PMSEIC 2010). Notwithstanding, the Australian Government takes food security seriously and in 2009 the Prime Minister's Science, Engineering and Innovation Council (PMSEIC) commissioned a report: *Australia and Food Security in a Changing World*. In the report, Australia's strengths in our ability to produce food are discussed. The report also identifies challenges to our ability to be food secure and contribute to global food security, including water use and management, soil nutrition and our reliance on fertilisers, the need to accelerate advances in crop and livestock breeding (PMSEIC 2010). Similarly, food security in terms of accessibility and affordability can be an issue for those Australians experiencing socioeconomic disadvantage including senior Australians, Indigenous people, isolated rural Australians, new migrants and low-income households (NPHP 2001).

### *3.2.1 Issues and drivers*

The issues and drivers of Australia's food security include those affecting food availability, food continuity in a crisis and food affordability.

#### *Food availability*

- Australia enjoys an abundant and reliable supply of fresh, nutritious, safe, high quality and affordable food. The Australian Government estimates (based on food retailers' public statements) that around 98 per cent of fresh produce, including meat, milk and eggs, as well as fresh fruit and vegetables is domestically produced.
- For most food groups, Australia produces far more than it consumes (DAFF 2009b) and exports a considerable proportion of food production as a consequence. This gives Australia an enviable capacity to maintain an abundant domestic food supply for decades to come. While Australia's food supply is considered secure it, like all other countries, is not self sufficient (no country is).
- Imports make an important contribution to Australia's food security. Australia imports some out-of-season food to ensure consumer demand for year-round supply and can import food, including raw materials, as inputs to productions when necessary to meet consumer needs. However, as the population increases, imports are likely to be an important complement to domestic production in satisfying Australian food requirements (NILS 2010) and continued growth in imports of a range of processed foods is likely.
- Agricultural production is intrinsically variable; importing some foods allows Australia to cover temporary production shortfalls and provide counter-seasonal availability of some fresh foods and greater choice and access to certain types of food not produced locally in sufficient quantities. Most imports are processed fruit and vegetables, bakery products, confectionary, beer and wine (DAFF 2011a).
- Imports are also important for Australia's food processing sector. Most Australian produced packaged foods contain imported ingredients or use imported materials for packaging. These include additives, such as colourings, flavours and emulsifiers; yeast for baking; and long-life packaging and tinplate (DAFF 2009a unpublished).
- Over the past decade, the rise in the value of food imports has been due to a range of factors including droughts that affected local food production, international currency fluctuations, changing dietary preferences, and costs of ingredients in food processing.
- Global demand for biofuels, including ethanol and biodiesel, is one of many factors that affect food security and food prices. The effect of biofuels on food prices remains

a contentious issue; studies have found that biofuels contribute between 3 and 70 per cent to the price of food. The large variation is due to difference in methodology used, time periods considered and different foods and prices examined.

- The Australian biofuels industry is unlikely to significantly affect food prices due to the small scale of the industry and because some Australian biofuels are made from the co-products of other food processes, such as tallow and molasses, and waste from wheat starch and gluten manufacture. Even if demand for biofuels substantial increased necessitating use of traditional food crops, such as grains and sugar, it is unlikely to significantly affect food prices domestically as these commodities trade in global markets.
- Although Australia, as a nation, does not experience food availability problems, it is an issue in many remote (primarily Indigenous) communities. Factors that contribute to this problem include the high cost of freight and storage infrastructure and the small size of many communities which makes them unattractive to retail outlets. In Australia‘s north, the wet season contributes to food availability problems; roads are impassable and local stores and individuals often have insufficient cash flow to stock up for the season. Most communities supplement their food supply with traditional foods where this is available but it is often insufficient to offset supply problems (NTDoH 2007).

### *Food continuity in a crisis*

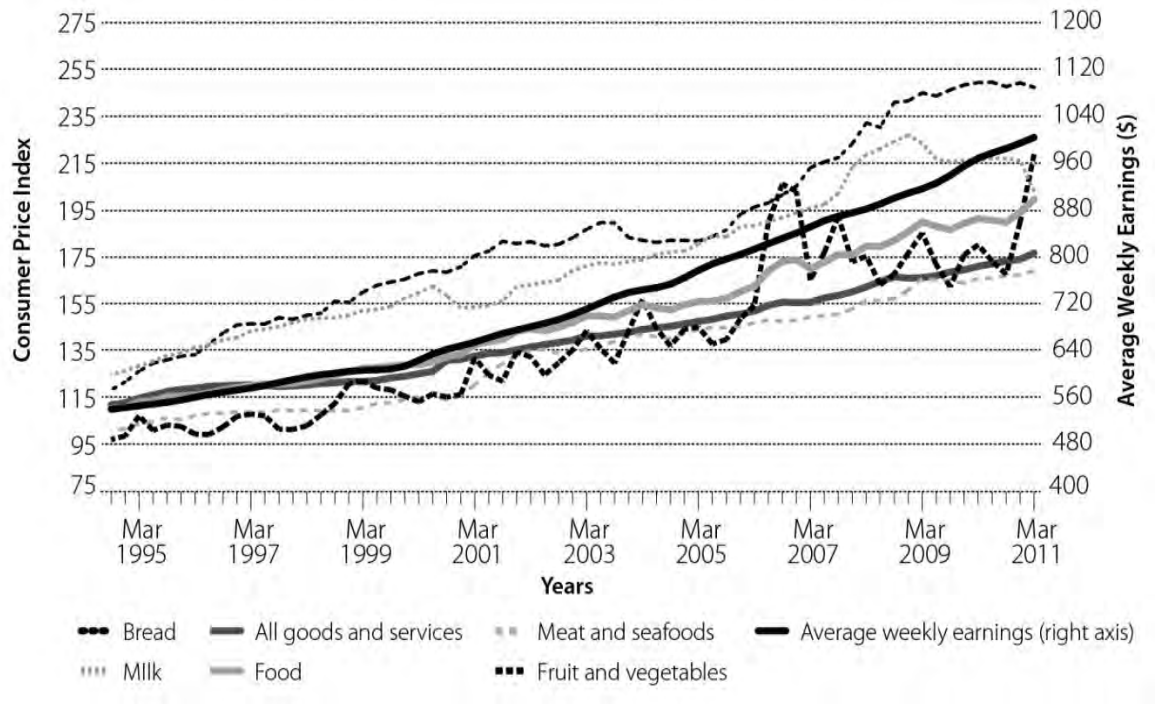
- Australia has recently experienced a number of large scale and devastating natural disasters where the food industry has demonstrated a strong capacity to maintain supply in significant regional emergencies. However, there are risks it could face challenges in the event of a significant national emergency such as a severe pandemic, or a multi-jurisdictional natural disaster.
- Industry owns and operates the entire food supply chain, but is also dependent on all the other forms of critical infrastructure variously controlled by or for government. In a national emergency, governments at all levels would need to rely on the food industry to maintain continuity of supply, a task compatible with the private benefit motivations of industry.
- Food supply chains are complex and subject to numerous pressures from a global to a local scale. In the drive to remain efficient and profitable, food supply chains tend to use ‗just in time‘ management practices. This means there is typically less than 30 days non-perishable food and 3 to 5 days fresh food in the food supply chain at any given time (ECRA 2006), while Australian households typically hold 3 to 5 days food and grocery supplies.[3] Import dependencies across the food supply chain may give rise to vulnerabilities or disruptions in the event of a national or offshore emergency. Over the last five years, the food industry has been developing a plan to address potential vulnerabilities during a severe influenza pandemic
- The food supply chain is nationally distributed - it does not operate by state borders. Maintaining the existing food supply chain to the maximum extent possible would be critical in maintaining continuity of food supplies in a severe emergency. States and territories have wide-ranging emergency powers which could be used to intervene in the food supply chain in a national emergency; but the Australian Government does not have explicit powers to ensure food supply during a severe emergency. There might be a role for national coordination in some areas, including overcoming jurisdictional differences.

- While the food supply chain has proven its resilience, including through the natural disasters that occurred in Queensland during the summer of 2010–11, Australia should continue to ensure the food supply chain's resilience to respond to unexpected disruptions and emergencies.

## *Food affordability*

- The average Australian household spends around 12 to 14 per cent of its after-tax income on standard groceries (ACCC 2008) but food affordability is an issue for some Australians. Recent increases in food commodity prices and the current period of increased volatility are affecting the cost of living.
- Food prices in Australia have been trending up over time. Since 2001, the food prices have been rising at a higher rate compared to the prices of all goods and services taken together. This trend has been associated with significant increases in the price level of manufactured food such as bread and milk (until very recently), and an increased volatility of the prices of fruit and vegetables (figure 2; left hand axis). In the meantime, however, the affordability of food for Australians have been improved with the Australian average weekly earnings growing faster than the rate of increase in food prices, (figure 2; right hand axis). This highlights the importance of improving economic performance in meeting food affordability.

**Figure 2: Australian food prices (based on consumer price index) relative to average weekly earnings**




Sources: ABS 2011a, *Consumer Price Index, Australia, March 2011*, cat. no. 6401.0, Australian Bureau of Statistics, Canberra and ABS 2011b, Average weekly earnings, Australia, February 2011, cat. no.6302.0, Australian Bureau of Statistics, Canberra

- Australia‘s extensive income support safety net reduces the risk of sustained and widespread food insecurity among disadvantaged groups but this can be an ongoing issue for families or individuals who face high housing costs or other living expenses and low incomes. Problems can be compounded by factors specific to individuals and families, such as lack of nutritional information, difficulties in accessing low price retail outlets and other factors that divert income to items other than food and reduce the ability to budget effectively.
- Food insecurity—the inability to access an adequate food supply—is an issue confronting developing countries and socioeconomically disadvantaged populations in developed countries. For instance, a study based on 2004–05 ABS National Health Survey data (Temple 2008) indicates that about 5 per cent of the Australian population could be food insecure at any time. Groups at particular risk of food insecurity include the very old, Indigenous Australians, isolated rural Australians, new migrants and low income households (NPHP 2001). Because the prevalence of food insecurity is associated with a range of economic and socio-demographic factors, studies based on new information, such as the 2007–08 ABS National Health Survey, would shed more light on trends. Groups at risk of food insecurity in Australia tend to spend less per person, but a greater overall proportion of their total income on food.
- One study of Australian food expenditure data suggests that a substantial proportion of the Australian population (in the order of 10 per cent) is severely restricted in its capacity to make healthy food choices and to achieve a healthy lifestyle (Lester 1994).
- Low income is one factor affecting people‘s ability to make healthy food choices.
- Dietary decisions made within the context of ongoing financial constraints appear to be driven in part by maximising energy content for every dollar spent, leading to energy-dense nutrient-poor choices (Drewnowski et al. 2004; Drewnowski and Darmon 2005). Meat, fruit and vegetables, for example, while highly nutritious foods, are often associated with the highest costs. Conversely, foods such as sweets and salted snacks, while nutrient-poor, are perceived as relatively inexpensive and therefore commonly consumed as sources of dietary energy (Andrieu et al. 2006; Malliot et al. 2007).
- In addition, the costs of nutritious (low energy-density, high nutrient-density) foods are increasing disproportionately when compared with the costs of higher energy density, relatively nutrient-poor foods. For instance the price in Queensland, of a nutritious food basket rose by 42.7 per cent between 2000 and 2006, compared with a rise in the consumer price index for food of 32.5 per cent (Queensland Health 2006).[4]
- Access to affordable nutritious foods in low socioeconomic areas and between geographic locations is not equitable. Affordability of food is a particular problem in remote Australia where freight and infrastructure costs can be very high and there is not the level of retail competition and economies of scale that apply in urban areas. This particularly affects Indigenous communities. In 2004, a ‗healthy‘ food basket cost 30 per cent more in very remote areas of Queensland, compared with the price of the same food basket purchased in the major cities (Harrison et al. 2007).
- It is apparent that rural and regional populations have less access to affordable healthy foods. The results of a 2007 Cancer Council of New South Wales survey into the cost, availability and quality of nutritious foods across 150 locations in New South Wales found there was extensive variability in the cost and availability of a standard basket of nutritious food across different geographic and demographic areas of the state; the cheapest cost $337 and the most expensive was $520. People in lower socioeconomic

groups and those living in more remote areas were found to have less access to a variety of fruit and vegetables (Cancer Council NSW 2007).

- Affordability issues are most acute in remote areas because most residents have low incomes and the cost of food is high. A 2006 Queensland Healthy Food Access Basket indicated that the cost of food in very remote stores was around 33 per cent more than the cost of the basket in Brisbane (Queensland Health 2006).
- In 2004–05 20 per cent of Indigenous Australians in remote areas aged 12 years and over reported no usual daily fruit intake compared with 12 per cent in non-remote areas. The disparity was even greater for vegetables, where 15 per cent of Indigenous Australians in remote areas reported no usual daily intake compared with 2 per cent in non-remote areas.
- The 2004–05 National Aboriginal and Torres Strait Islander Health Survey indicated that, at some time over the previous year, 20 per cent of Indigenous Australians in non-remote areas had run out of food and could not afford to buy more. In remote areas this figure was 36 per cent (AHMAC 2008).
- Indigenous Australians were twice as likely to report no usual daily fruit intake and seven times as likely to report no daily vegetable intake as non-Indigenous Australians. Strong associations with socioeconomic status were also evident. Indigenous Australians reporting no usual daily vegetable intake were more likely to be in the lowest quintile of equivalised household income (a ratio of 10 compared with the highest quintiles), and for no usual daily fruit intake this ratio was two compared with the highest income quintiles (AHMAC 2008).

### *3.2.2 Current Australian Government approach*

Successive governments in Australia have promoted affordability of food through facilitating competition in food industry and by support for the disadvantaged through the income support system and associated support programs, such as nutritional and other advice.

The Australian Government‘s efforts to maintain Australia‘s domestic food security focus on:

- improving productivity of food and agricultural industries, particularly through R&D and its adoption
- protecting the productive base, maintaining plant and animal health status and sustaining the natural environment
- maintaining efforts to liberalise investment and trade, ensuring that farmers, fishers and food processors receive appropriate market signals and are not impeded from responding to them by market barriers
- providing support for the disadvantaged through the income support system
- engaging in number of activities that aim to improve nutrition awareness and promote healthy eating (see section 4.1.2).

Current initiatives that contribute to maintaining Australia's food security include:

- Supporting innovation in food and agricultural industries through a number of broad programs to support research collaboration and provide business advice and co-investments in new technologies (see section 5.3.2).
- Continuing to invest in the economy's productive capacity through better and more targeted skills and training.
- Targeting income support payments to alleviate poverty among the unemployed, aged, people with disabilities and their carers, the sick and families with children. Initiatives also focus on increasing consumption of nutritious foods and reducing the diet-related burden of disease for Indigenous people in remote Australia through the National Strategy for Food Security in Remote Indigenous Communities (COAG 2009).
- For remote communities, government has put in place a range of measures, particularly aimed at ensuring that remote communities have access to a retail outlet that stocks food that is healthy and good quality and at the lowest price possible given the costs faced by the stores. The Australian and state and territory governments with remote responsibilities have agreed a National Food Security Strategy and National Healthy Eating Action Plan to make further improvements to nutrition in remote Indigenous communities. However, high food prices in these areas continue to be a concern.
- There have been calls for these problems to be addressed through use of subsidies, such as for freight, but experience suggests that subsidies are costly, difficult to monitor and often do not result in lower prices for consumers. Addressing social equity in affordability of food, therefore, is likely to continue to involve continuing refinement of the income support system to focus on those most in need, combined with ongoing review of the cost-effectiveness and range of support programs, and a recognition of the need to balance government intervention in nutrition issues with freedom of choice and family responsibilities.
- In December 2009 COAG adopted a whole-of-nation resilience-based approach to disaster management that recognises that a national, coordinated and cooperative effort is needed to enhance Australia's capacity to withstand and recover from emergencies and disasters.
- Closing the gap on Indigenous life expectancy is a COAG priority, and achieving this goal will require a focus on food security for Indigenous peoples, as poor nutrition is a major determinant of excess morbidity and mortality among Indigenous people. In particular, food security remains a challenge for Indigenous peoples living in remote communities that often have poor infrastructure and limited local economic opportunities. The supply of fresh, nutritious food is often sporadic and of limited choice and low quality and the cost is significantly higher than in urban and regional areas.
- Launching a Critical Infrastructure Resilience Strategy in June 2010 with the aim of continuing operation of critical infrastructure in the face of hazards. The food supply chain one ‗critical infrastructure' included in the strategy (AGD 2010a).
- Adopting the National Strategy for Disaster Resilience (February 2011). The strategy recognises that disaster resilience is a shared responsibility for individuals, households, businesses, communities and governments. This strategy complements the Critical Infrastructure Resilience Strategy. Disaster resilience is strengthened where

communities have continued access to essential services provided by critical infrastructure, such as the food supply.

- Commissioning a report on resilience of the food supply. The report found that to date the Australian food supply chain has demonstrated a high degree of resilience, but that factors on both the demand and supply side are decreasing future resilience (Bartos and Balmford 2010).
- Establishing the Trusted Information Sharing Network in 2003 (AGD 2010b). The network is a forum in which the owners and operators of critical infrastructure (including food) work together to raise awareness of risks, share information and techniques needed to assess and mitigate risks, and build resilience capacity within organisations.
- Coordinating development of a national plan—AUSFOODPLAN—to build the food supply chain's resilience to respond to unexpected disruptions in an environment that is increasingly complex, uncertain and turbulent.
- Studies to understand food supply chain risks in an emergency, including a case study on the impact of the Queensland floods on the food supply chain.
- The government believes that in future Australia will need to focus on second generation biofuels, which use low cost, non-food crops, algae and agricultural wastes as feedstocks. Second generation biofuels will help mitigate competition between food and fuel. The government is therefore targeting investment at second-generation biofuels. The government has previously made available funding of $12.6 million for the Second Generation Biofuels Research and Development program. More recently, it announced that it will provide $20 million to establish an Australian Biofuels Research Institute at James Cook University. The focus of the institute will be research into second generation biofuels food security.

### *3.2.3 Questions for consultation*

13. Have all the possible risks to Australia's food security been identified in this paper? If not, what other risks are you aware of?

14. What specific additional actions by:
    - the government sector would most benefit our food security status?
    - the non-government sector would assist in maintaining our food security status?

15. Are current arrangements adequate to ensure continuity of Australia's food supply during significant national emergencies? If not, what further action is needed to prepare for food supply emergencies and improve our ability to manage emergencies if they occur?

16. What specific actions would help improve food security in remote Indigenous and low socioeconomic populations?

# 4. Diet, nutrition, food safety and the consumer

## 4.1 Diet and nutrition

Adequate nutrition is fundamental to health and prevention of disability and disease. It is also essential for normal growth and development, and contributes significantly to weight management. Being overweight or obese is a common underlying risk factor for major non-communicable chronic diseases, including type 2 diabetes, cardiovascular disease and some forms of cancer.

In addition to individual health benefits, the quality and quantity of foods consumed by a population contributes to economic and social wellbeing. Sound nutrition is closely related to good education outcomes, economic development and social and community cohesion.

In Australia, the burden of disease due to poor nutrition is related primarily to the excessive intake of energy-dense, nutrient-poor foods. Notwithstanding this, deficiency of certain nutrients, including vitamin D, iodine, iron and folate, remains a concern for some population groups (NHMRC 2006).

### *4.1.1 Issues and drivers*

- Good nutrition is an important contributor to health and wellbeing. As such, it is vital that Australia's food supply provide a range of foods to meet the nutritional needs of all Australians, including disadvantaged and vulnerable groups.
- When addressing food supply issues, it is not enough to focus solely on quantity, the quality of foods and beverages must also be considered. From a nutrition perspective, a high quality food supply is one that meets all the nutritional requirements of the population, while protecting against obesity and diet-related disease.
- In Australia, approximately 16 per cent of the total burden of disease and 56 per cent of all deaths are due to poor nutrition (Crowley et al. 1992; Rayner and Scarborough 2005). This appears to be due largely to excessive intakes of energy-dense and relatively nutrient-poor foods and/or inadequate intakes of healthy foods, including vegetables, fruits and wholegrain cereals (National Preventative Health Taskforce 2009).
- While national nutrition surveys indicate some positive changes in Australian diets, as a population Australians are still eating too many _extra' foods, that is foods that are highly processed, energy dense and relatively nutrient poor (Rangan et al. 2009). According to an analysis of the *1995 National Nutrition Survey*, Australian adults and children consumed between two and four times the recommended limit of _extra' foods. These contributed almost 36 and 41 per cent of total energy intake, and approximately 41 and 47 per cent of total fat intake in adults and children respectively (Rangan et al. 2008; Rangan et al. 2009).
- These food behaviours are an important risk factor for adverse health outcomes.
- In particular, excess weight (including overweight and obesity) arising from poor dietary choices is implicated in the development of a number of chronic diseases. These include asthma, cardiovascular disease, cerebrovascular disease, chronic kidney disease, colorectal cancer, depression and diabetes (AIHW 2006). The escalating prevalence of obesity is also believed to be a significant contributing factor to the rapid rise of type 2 diabetes, with evidence that the risk of type 2 diabetes increases with increasing excess weight (AIHW 2008). In 2003, high body mass index was found to

account for 7.5 per cent of the total burden of disease and injury and 7.2 per cent of the total deaths in Australia (Vos and Begg 2007).

- Australia's adult obesity rate is the fifth highest among OECD countries, behind the United States, Mexico, the United Kingdom and Greece (OECD 2007).
- According to the 2007–08 ABS *National Health Survey*, 68 per cent of adult men and 55 per cent of adult women are overweight or obese, 17 per cent of children aged 5 to 17 years are overweight and 7.8 per cent are obese (ABS 2009b). The proportion of children who are obese rose from 5.2 per cent in 1995 to 7.8 per cent in 2007–08. The findings of the *2007 Australian National Children's Nutrition and Physical Activity Survey* found the proportion of children who were overweight was 17 per cent, obese 6 per cent and underweight 5 per cent (CSIRO Preventative Health National Research Flagship and University of South Australia 2008).
- Indigenous Australian adults are twice as likely to be obese as non-Indigenous Australian adults (AHMAC 2008). This is estimated to contribute 16 per cent of the health gap between Indigenous and non-Indigenous Australians (Vos et al. 2007)
- Overweight, obesity and associated health problems place an economic burden on the Australian health care system. According to Access Economics, in 2008 the total annual cost of obesity to the community was $58.2 billion, including $8.3 billion in lost productivity and $2 billion in health system costs (Access Economics 2008).
- Observers predict that by 2025, 83 per cent of men and 75 per cent of women aged 20 years and over in Australia will be overweight or obese (Haby and Markwick 2008). This predicted increase is expected to significantly affect Australia's disease burden and health care costs, mostly due to an increased incidence of type-2 diabetes, which is expected to become the leading disease burden by 2023 (AIHW 2010). Without intervention type-2 diabetes will account for around 9 per cent of the total disease burden in 2023 compared to 5 per cent in 2003 (Begg et al. 2007). The projected health expenditure for diabetes is predicted to rise to $1.4 billion by 2023 mostly due to increasing weight gain (Begg et al. 2007).

### 4.1.2 Current Australian Government approach

- It is important that Australia's food supply is able to support the nutritional needs of all Australians, in both quantity and quality.
- Many organisations, both private and public, undertake various activities to help consumers make healthier food choices.
- The Australian Government is working collaboratively with industry and public health groups to address poor dietary habits and promote healthier food choices for all Australians. With processed and pre-prepared foods forming a significant portion of the food sold in Australia, food manufacturers and retailers, in particular, have an important role in supporting sound nutrition outcomes.
- In March 2009, the Australian Government established the Food and Health Dialogue to address poor dietary habits and make healthier food choices easier and more accessible for all Australians. The dialogue's primary activity is action on food innovation. This includes a voluntary reformulation program to reduce nutrients associated with health risk, including sodium, sugar, saturated fat and energy, and increase the fibre, wholegrain, fruit and vegetable content of commonly consumed processed and pre-prepared foods. These activities are being supported by strategies to standardise and reduce portion sizes and improve consumer awareness of healthier food choices.

- In order to be able to set standards to help health professionals implement health, nutrition and physical activity programs that will inform the public about healthy lifestyle choices the government needs to collect information on what consumers are eating. This information will be collected through the Australian Health Survey, which the ABS is implementing. Data collection for the survey began in March 2011 and includes comprehensive data on health status, medications, food and nutrition intake, physical activity participation, physical measurements and biomedical indicators of chronic disease and nutrition status.
- The Australian Government is engaged in a number of activities that aim to improve nutrition awareness and promote healthy eating. These include:
  - The National Partnership Agreement on Preventive Health will provide $872.1 million over six years from 2009–10 to address the rising prevalence of lifestyle-related chronic disease. Supported by national social marketing campaigns (such as Measure Up) it will lay the foundations for healthy behaviours in the daily lives of Australians through communities, early childhood education and care environments, and schools and workplaces.
  - The Measure Up campaign aims to encourage adult Australians to make and sustain changes to their behaviour to reduce their risk of chronic disease by having a healthier diet and an increased level of physical activity.
  - The National Health and Medical Research Council's *Australian Dietary Guidelines* provide advice on dietary behaviours that optimise health and prevent chronic disease for key population groups and across various life stages.
  - The *Australian Guide to Healthy Eating* specifies the amounts and types of foods to consume each day for good health.
  - The *National Healthy School Canteen Guidelines* which will build on existing the models for healthy school canteen food already operating in the states and territories and aim to deliver a consistent national approach.
  - The Stephanie Alexander Kitchen Garden National Program in up to 190 primary schools teaches students to grow, harvest, prepare and share fresh food in the belief that this approach will provide a better chance of positively influencing children's food choices.
  - The Healthy Eating and Physical Activity Guidelines for Early Childhood Settings (Get Up & Grow) resources.
  - The COAG *National Strategy for Food Security in Remote Indigenous Communities* agreed in December 2009 provides a framework for improving access to, and demand for, nutritious food in remote Indigenous communities.

## 4.2 Safe food

### *4.2.1 Issues and drivers*

- Unsafe food causes many acute and life-long diseases, ranging from diarrhoeal disease to various forms of cancer (WHO 2011).
- Chemical hazards can also contaminate food and in addition to being a worldwide public health concern, it is a leading cause of trade problems internationally.
- Deliberate contamination of the food supply, including agri-terrorism or agro-terrorism, also has the potential to threaten public health through illness or death and undermine confidence in the safety of food consumed domestically as well as that supplied to Australia's export customers.
- Foodborne illnesses are a significant public health problem, with 5.4 million cases estimated to occur each year in Australia (Hall and Kirk 2005). Each year, Australia-wide, it causes around:
  - 5.4 million cases of gastroenteritis
  - 6000 non-gastrointestinal illnesses (such as listeriosis)
  - 42 000 episodes of long-term health effects (such as reactive arthritis) (Hall and Kirk 2005).
- The annual effects of these illnesses include an estimated:
  - 1.2 million people visiting the doctor and 300 000 prescriptions for antibiotics
  - 2.1 million days of work lost
  - 15 000 hospital admissions
  - 120 deaths (Hall and Kirk 2005).
- The total cost of foodborne illness is estimated at $1.2 billion a year, with the main components being productivity and lifestyle costs ($770 million), premature mortality ($230 million) and health care services ($220 million) (Hall and Kirk 2005).
- Additionally, consumers are concerned about food quality and safety issues (including the presence of chemical residues and natural contaminants), and demand more information about, and better traceability of, ingredients in food products.
- While use of agricultural and veterinary chemicals dramatically increases agricultural productivity and ensures better quality produce, residues of these chemicals in food can be hazardous to health.
- Consumers are concerned about use of technologies, such as genetic modification and nanotechnology, in food production. For example, possible allergens and whether the use of antibiotic resistance marker genes in genetically modified foods may lead to microbial resistance to antibiotics, with potential human health implications. They are also fearful that as a result of genetic engineering accidental toxins or other harmful compounds may be introduced into food products.

### 4.2.2 Current Australian Government approach

- Australia adopts a risk-based approach to managing production of safe food and regulating food safety that is consistent with the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) and international best practice.
- Australia supports objective, science-based risk analysis that focuses on public health and safety. The pre-eminence of science in developing food standards and validating their effectiveness is fundamental to ensuring the safety of the food supply.
- Australia's food regulation system (figure 3) is a cooperative bi-national arrangement between the Australian Government, the states and territories and New Zealand. The food regulatory system has three distinct components—policy development, standard setting and enforcement.
  - ANZFRMC is responsible for establishing food regulatory policy.
  - FSANZ is an independent statutory authority responsible for researching, developing and submitting proposals for food standards to ANZFRMC that will apply in both Australia and New Zealand or Australia only. Once ANZFRMC adopts proposals they become part of the *Australia New Zealand Food Standards Code*.
  - In Australia, the state and territory food regulatory enforcement agencies are responsible for monitoring compliance and enforcement of the *Australia New Zealand Food Standards Code*. The Australian Government's only direct constitutional power to undertake this activity is at the border by the Australian Quarantine and Inspection Service.
- FSANZ considers the scientific evidence in assessing the safety of foods made with technologies such as genetic modification. FSANZ also provides information on these issues on its website.
- The Agreement between the Government of Australia and the Government of New Zealand (the Food Treaty) underpins the joint food standards system between Australia and New Zealand. Whilst the Food Treaty and the Trans-Tasman Mutual Recognition Arrangement (TTMRA) facilitate the Australia New Zealand joint food system, they do not separately or collectively cover all aspects of the food regulatory system in the respective countries. There are components of each country's food regulatory system which remain either Australia only or New Zealand only responsibilities. Monitoring compliance and enforcement of food standards is one such area. The centralised interpretative advisory service function (within FSANZ) aims to make improvements across all Australian states and territories.

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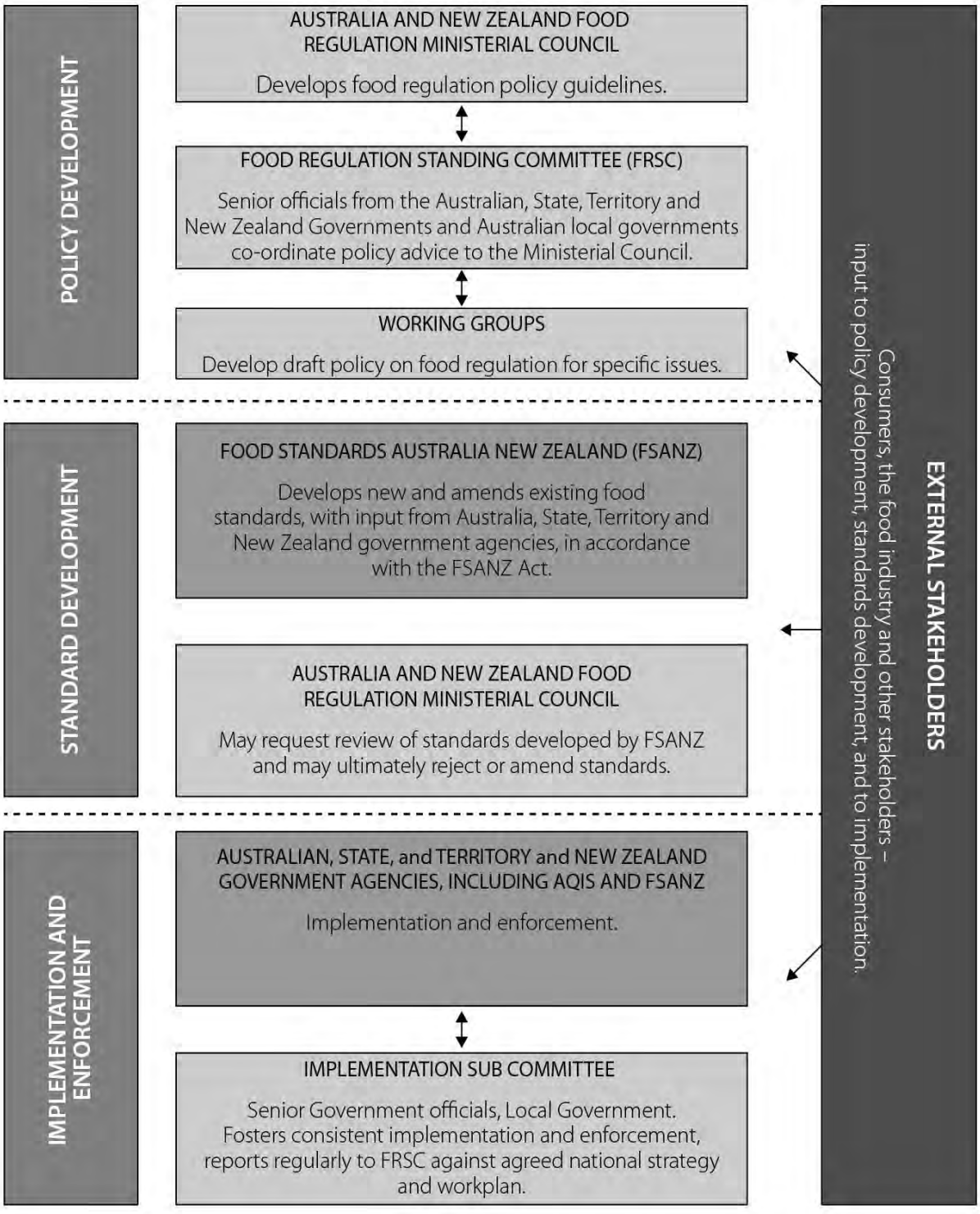
**Figure 3: Overview of Australia's food regulatory system**




Source: DoHA 2011, *Food regulation system – Australia and New Zealand*, Department of Health and Ageing, Canberra, available at http://www.health.gov.au/internet/main/publishing.nsf/Content/foodsecretariat-system-brochure

- Use of agricultural and veterinary chemicals in Australia is strictly regulated to ensure consumer safety. Government-run produce monitoring programs are in place to regulate proper use of farm chemicals.
- The Australian Government coordinates surveillance of foodborne illness through OzFoodNet. OzFoodNet detects concurrent events of foodborne illness across the nation that otherwise might not be recognised until they had developed into a major incident with substantial costs to the Australian economy and community.
- Australia shares information on food safety incidents globally through the World Health Organization (WHO) coordinated International Food Safety Authorities Network and is a signatory to the International Health Regulations 2005 that require Australia to respond to national public health risks and emergencies, including incidents involving food, and to assess and report events that may constitute a public health emergency of international concern to the WHO. The Australian Government is responsible for establishing and maintaining national arrangements for notifying and responding to incidents and implementing a national health response in conjunction with states and territories and relevant food authorities, such as FSANZ.
- Australia participates, through the Codex Alimentarius Commission (Codex), in development of international food standards to improve outcomes for domestic food safety and public health policies and enhance opportunities for Australian agricultural and food industries, particularly in respect of their trade interests.
- The WTO recognises international food standards through its agreements on Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT). Member countries (including Australia) are encouraged to use international standards, guidelines and recommendations where they exist. Countries may set their own standards, which should be supported by scientific justification.

## 4.3 Changing consumer choice and expectations

### *4.3.1 Issues and drivers*

- Consumer desire for readily available, affordable, convenient and safe foods is influencing food supply chains globally and locally, thereby shaping what Australia produces and how it is produced and sold.
- Many consumers are increasingly seeking information about their food. The health benefits are a major motivation along with where and how food is produced (for example, organic food), sustainability (including carbon footprint), nutrition information and fair trade. Consumer research demonstrates there is emergent interest in environmental and social values which affect food purchasing decisions (Barstow 2002; Brickley 2002; Gordy 2002).
- The rising prevalence in Australia of obesity and diet-related disease emphasises the important role of governments, public health groups and industry in raising consumer awareness of the nexus between food and health, and in creating incentives for nutritious food choices. As the food supply in Australia is increasingly dominated by processed and pre-prepared foods, it is important that consumer desire for convenient and affordable food is balanced against nutrition objectives, and that population health outcomes are considered across all points of the food supply chain. There is evidence to suggest that people on low incomes, in particular, will tend to make food choices that maximise calories per dollar spent on food. This leads to food choices that are

energy dense and high in fat, refined starch and sugars (Drewnowski and Specter 2004 in AHMAC 2008).

- Research shows that after consideration of price, quality, health and taste, consumers seeking _sustainable' food look for a mix of attributes including environmental sustainability, localness, support of small business, animal welfare, workers' rights and minimal transport, in that order of importance (Ecker 2010).
- Consumer expectations about supply of animal-based commodities produced using perceived _more humane' methods are increasing. These expectations are reflected in an increase in private standards some supermarkets and food service outlets demand.
- Growing consumer affluence coupled with time constraints mean an increasing number of meals are being sought from restaurants, cafes and take-away food outlets.

### 4.3.2 Current Australian Government approach

#### Consumers

- Empowered and informed consumers drive innovation and competition in well functioning markets. Consumers need to be confident in the safety and security of products and have appropriate information about the price, content, nutrition attributes, quality, derivation and production of those products so they can be empowered and informed. In this way, they can make consumption decisions that satisfy their needs and wants and give signals to suppliers about the product characteristics they need. These signals can, in turn, encourage greater choice, competitive price, improved product quality, greater innovation and improved consumer health and wellbeing.
- Australia's consumer laws provide basic protection for consumers from misleading and deceptive conduct, false and misleading representations and through laws guaranteeing basic product quality and product safety. These broad rules are enhanced through specific food regulation under the *Australia New Zealand Food Standards Code*, which provides for specific rules on the content, processing, packaging and labelling of food products.
- The government's policy is to allow commercial entities to position themselves to facilitate consumer preference, so long as representations they make about products involved meet the requirements of Australian consumer laws.
- While competition may encourage innovation and product quality, consumer laws ensure minimum standards of business behaviour and product safety are maintained. Australia's consumer policy framework provides consumers with confidence in food products by having a robust product and food safety regulatory system to ensure harmful products are kept out of the market, or they can be removed from the market quickly and those responsible penalised.
- On 28 January 2011, the Australian Government released, *Labelling Logic*, the final report of the review of food labelling law and policy. The terms of reference for the review included consideration of policy drivers, the role of government, approaches to achieve compliance, appropriate enforcement and evaluation of current policies. The review considered options to reduce the regulatory burden in labelling using an evidence-based approach without compromising public health and safety. The Australian Government is now considering its response to the report.

### *Animal welfare*

- Responsibility for legislation and enforcement programs covering animal welfare in food production resides with the states and territories. The Australian Government supports the work of the states and territories to develop a nationally consistent, evidence-based approach to livestock welfare. Consumer preference, where the safety of the food is not in question, is a commercial matter.
- The *Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock* has been produced and the states and territories have begun implementing its requirements in a nationally consistent manner. Further standards are being prepared and others are planned to provide livestock industries with a comprehensive set of directly-enforceable laws covering animal welfare up to and including slaughter.
- The Australian and state and territory governments have endorsed the Australian Animal Welfare Strategy. Features of the strategy include: commitment to a national system that optimises animal welfare outcomes, promotes the competency of those involved in caring for animals so they are empowered to adhere to a duty of care, and applies national evidence-based requirements.
- In addition to the standards and guidelines, all members of PIMC agreed in 2009 to harmonise all state and territory animal welfare laws. As that work is now complete there is a system in place to assure the welfare of livestock in any production system under consistent state and territory laws and associated enforcement activities.

### *4.3.3 Questions for consultation*

17. Do you see a role for the food industry in supporting population health and nutrition outcomes? If so, what do you believe that role is and what support might industry need in fulfilling this role?

18. Some food industry sectors have developed tools to demonstrate desirable product attributes to consumers, for example through organic or environmental certification. Do you know of any examples of food supply markets that are not adjusting to evolving consumer demands (that is, potential market failures)? What are they and how could they be encouraged to adjust (that is, not fail)?

19. How do consumer perceptions of food production (across the food supply chain) affect food-related businesses and regional communities? What research has been done on this?

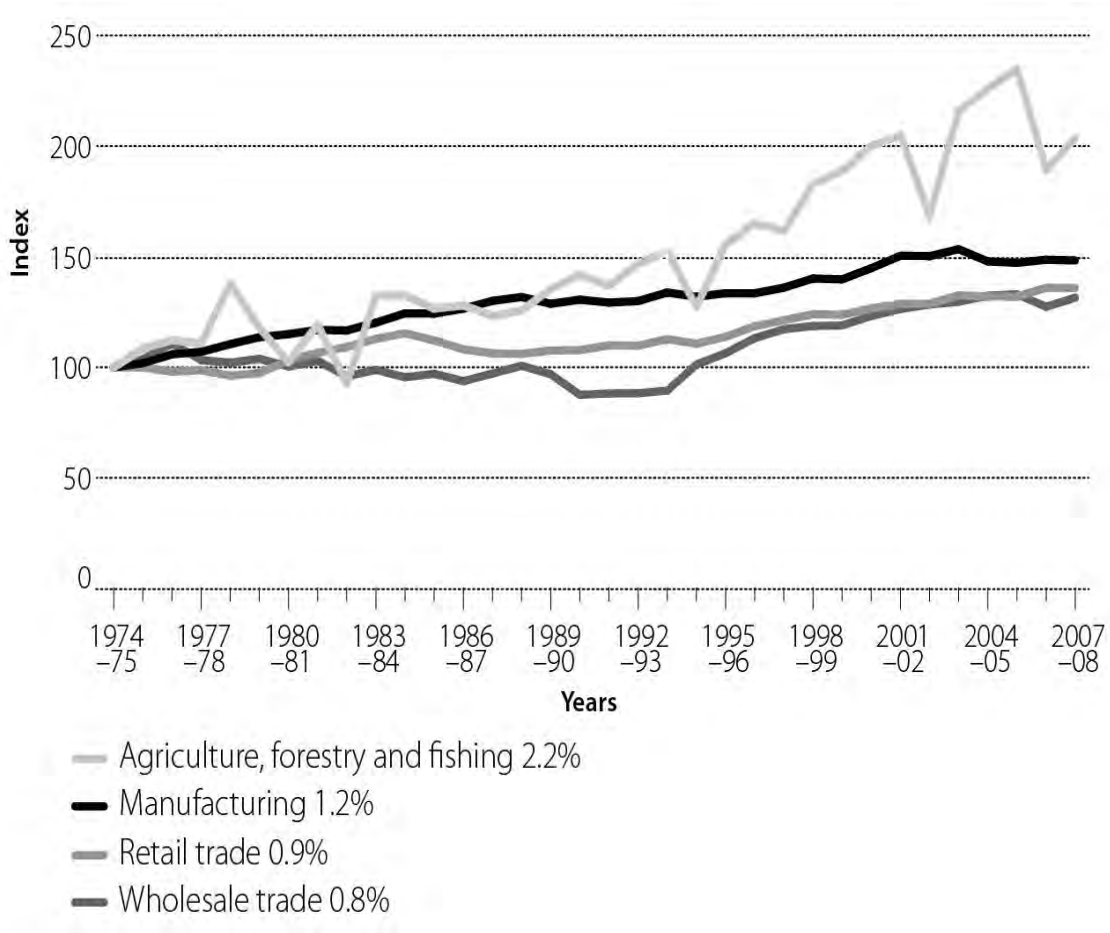
20. Are you confident in the food you eat? If not, what aspects concern you? Do you believe food in Australia is safe? If not, please outline which aspects of food in Australia you believe are not safe and what needs to be done to ensure all food in Australia is safe?

# 5. Competitive, productive and efficient food industry

Food and agriculture industries operate in a highly competitive environment in which a number of global and domestic economic and other factors affect the price of food products and business inputs. Increasing productivity has been a key industry response to this competitive pressure. Productivity is a measure of total output relative to the total inputs used. Productivity growth in Australian agriculture has been strong relative to other sectors of the economy and comparable to other OECD countries. Historically, productivity in the agriculture, fishing and forestry sector has risen at an annual average rate of 2.2 per cent since 1974 but growth has slowed since the mid 1990s (Productivity Commission 2009a). Productivity in manufacturing, which includes food processors, has grown at 1.3 per cent a year over the past 10 years.

Productivity trends vary by industry (figure 4). There is generally good data available on trends in broadacre industries (beef and sheep, cropping and mixed crop–livestock industries) and in dairy. These data indicate a decline in the rate of productivity growth, though it is still growing. However, there are limited data on other agricultural industries and, as a consequence, trends are unclear.

**Figure 4: Australian productivity growth, by sector**




*Source*: Productivity Commission 2009a, Estimates for individual industries, Productivity Commission, Canberra, available at http://www.pc.gov.au/research/productivity/estimates-trends

## 5.1 Competition

Competition in the Australian food sector is essential to ensuring efficient use of resources and encouraging rapid uptake of new technologies in food production and services. A competitive food sector creates incentives for businesses to be productive and innovative, which leads to greater benefits for all Australians, including improvements in food quality, greater consumer choice, competitive grocery pricing, and sufficient growth in food supplies to meet expanding demand.

### *5.1.1 Issues and drivers*

- In Australia, major supermarkets account for around half of the fresh produce market (ACCC 2008). However, alternatives for consumers and producers to buy and sell fresh produce domestically, include central markets, a growing network of community and farmers' markets, the rapidly evolving food services sector, specialty delicatessens, greengrocers, butchers and seafood outlets.
- Recent strong price competition between major supermarkets, which is placing downward pressure on grocery prices, is raising some stakeholder concerns about the impact on prices received by food producers.
- The extent to which price competition between food retailers may affect the profitability of food producers depends on factors such as the structure of the industry and the bargaining power of producers relative to food processors and retailers.

### *5.1.2 Current Australian Government approach*

- The Australian Government considers that competition is by far the most effective means of exerting downward pressure on grocery prices.
- The government takes cost of living pressures and competition in the retail and grocery sectors very seriously.
- In 2008, in response to community concerns about rising food prices, the government asked the competition watchdog, the ACCC, to conduct an inquiry into the competitiveness of retail prices for standard groceries in Australia. The ACCC found that the Australian grocery market was workably competitive, but a number of factors limited the level of price competition. They included:
  - high barriers to entry and expansion, particularly in relation to difficulties in finding new sites for development
  - limited incentives for Coles and Woolworths to compete aggressively on price
  - limited price competition that Coles and Woolworths face from independent retailers (ACCC 2008).
- The ACCC considered that the appropriate policy response was to attempt to lower barriers to entry and expansion, in both retailing and wholesaling to independent supermarkets and potential new entrants. To introduce more competition and empower consumers, the government has:
  - changed the foreign investment policy to extend the timeframe for development of vacant commercial land from 12 months to five years
  - strengthened the laws against predatory pricing
  - provided information about the Australian retail grocery industry to international grocery retailers
  - introduced a mandatory nationally consistent unit pricing regime.

- The ACCC inquiry examined food supply chain relationships and found no evidence that the major supermarket chains were acting in an anticompetitive way in their dealings with suppliers of fresh products.
- The voluntary Produce and Grocery Industry Code of Conduct was introduced in 2000 as the Retail Grocery Industry Code of Conduct, in response to a 1999 Joint Select Committee report, *Fair Market or Market Failure?* The code was established to help the produce and grocery industry self-regulate against claims of unfair and inequitable trading practices in the food supply chain. The objects of the code are to promote fair and equitable trading practices among industry participants; encourage open communication between industry participants as a means of avoiding disputes; and through the Produce and Grocery Industry Ombudsman provide a simple, accessible and non-legalistic dispute resolution mechanism for industry participants in the event of a dispute. The ombudsman service is open to anyone in the food supply chain.

## 5.2 Business regulation

- Regulatory reform is a key way that governments can help improve business productivity. A range of government regulations across Australian and state and territory governments affect production, processing, delivery and consumption of food and beverages. Regulations apply to land use, environmental protection, animal welfare, licensing, quarantine and export, food safety, packaging and transport.
- There is a role for appropriate regulation in market economies. For instance, the consumer and competition policy framework in Australia provides market players with rules about inappropriate competitive conduct. The Australian community expects a degree of regulation of food safety and product labelling to ensure high standards in terms of the food products they consume. However, regulations can sometimes fail to achieve their objective, or are burdensome, complex, or inconsistent across jurisdictions, which can impose unnecessary compliance burdens on business.
- The benefits of reducing the regulatory burden on industry are that doing so:
  - supports increased productivity and international competitiveness
  - deepens the supply potential of the economy
  - drives the ability of the Australian economy to adapt quickly
  - raises the potential growth rate of the economy.

### *5.2.1 Issues and drivers*

- The Productivity Commission found that the regulatory structure governing the food industry is complex and inconsistent interpretation and implementation by states and territories of the national food standards contained within the *Australia New Zealand Food Standards Code* has the potential to impose significant compliance and administrative costs on businesses that operate across jurisdictional borders (Productivity Commission 2009b).
- Australia‘s large landmass and the long distance between its business and population centres make an effective freight transport and logistics industry vitally important to the economy. Transport policy has historically been developed by the Commonwealth and states and territories in relative isolation. Resulting uncertainty and duplication has imposed additional costs on business, including the agriculture and food industry. For example, differing load width regulations between jurisdictions mean that trucks crossing borders may exceed load width in some jurisdictions but not others. The Australian Logistics Council predicts that every 1 per cent increase in transport

efficiency will save Australia around $1.5 billion a year (Australian Logistics Council n.d.).

- Use of chemicals and plastics in Australia is widespread and covers various applications from large-scale agriculture and industry through to individual households. Responsibility for regulating chemicals and plastics is fragmented and complex, including in workplace health and safety, the environment and agriculture and veterinary chemicals. This fragmentation can create additional compliance burdens for food producers and food-related manufacturers in, for example, use of fertilisers and pesticides.

### 5.2.2 Current Australian Government approach

- The Australian Government is working to reduce the regulatory burden and cost for business, government and the community associated with both Commonwealth and cross-jurisdictional regulation.
- Better Regulation Ministerial Partnerships, between the Australian Government Minister for Finance and Deregulation and Commonwealth ministerial colleagues have proven an effective mechanism for reform of Commonwealth regulation.
- Cross-jurisdictional reform between the Australian and state and territory governments is being progressed through the National Partnership Agreement to Deliver a Seamless National Economy (SNE NP), to which COAG agreed in November 2008. The SNE NP sets out a reform agenda spanning 27 deregulation priority reforms, eight competition reform streams (including reforms to infrastructure, energy, transport and roads) and reform of regulatory processes.
- The SNE NP reforms, aim to benefit business and consumers by:
  - creating a seamless national economy, reducing costs incurred by business in complying with unnecessary and inconsistent regulation across jurisdictions
  - enhancing Australia‘s longer-term growth, improving workforce participation and overall labour mobility
  - expanding Australia‘s productive capacity over the medium term through competition reform, enabling stronger economic growth.
- In February 2011, COAG agreed five themes of strategic importance that will underpin the COAG forward agenda, namely:
  - a long-term strategy for economic and social participation
  - a national economy driven by Australia‘s competitive advantages
  - a more sustainable and liveable Australia
  - better health services and a more sustainable health system for Australians
  - closing the gap on Indigenous disadvantage.
- Given the high priority, all governments attach to boosting productivity and the competitiveness of the economy, COAG asked relevant ministers and officials for options to be developed for a further wave of regulatory and competition reforms, which COAG will consider later in 2011. Depending on the options developed and approved a further wave of regulatory and competition reforms could benefit the food industry.
- The Australian Government is considering further regulation reform options across a number of industry sectors, with the states and community and business stakeholders. In doing so, it is considering the findings in the Productivity Commission‘s

*Performance benchmarking of Australian and New Zealand business regulation: food safety research report* (Productivity Commission 2009b).

- The Productivity Commission report, which the Business Regulation and Competition Working Group and COAG had requested, benchmarks indicators of regulatory burden associated with food safety regimes across Australian jurisdictions and New Zealand. Findings included:
  - the regulatory structure governing the food industry is complex and inconsistent
  - little progress has been made in harmonising primary production and processing regulatory regimes
  - for businesses operating in one jurisdiction, the burden of compliance varied depending on the regulatory regime in place
  - that several regulatory differences between jurisdictions had the potential to increase costs for those businesses operating across jurisdictional borders
  - that greater consistency could potentially increase competition and productivity, resulting in lower prices to consumers and decreased costs to the food industry (Productivity Commission 2009b).

### *Food regulation reforms*

- The SNE NP food regulation reforms were focused on delivering nationally consistent rules about food handling, safety and labelling. These will reduce costs of industry compliance, provide greater certainty for business, especially those operating beyond state and territory borders, and provide better public safeguards for food safety.
- The three aspects of the SNE NP food regulation reform stream are:
  - **Improved national consistency in monitoring and enforcement of food standards**: agreement to establish a centralised interpretive advice function in Food Standards Australia New Zealand (FSANZ) to enable a nationally consistent approach to the way in which states and territories interpret food standards. In February 2011, all governments signed an intergovernmental agreement establishing a centralised interpretative advisory service in FSANZ that will operate from 1 July 2011 (COAG 2011).
  - **Reform of the voting arrangements of the Australian New Zealand Food Regulation Ministerial Council (ANZFRMC)**: changing the ANZFRMC voting arrangements to reduce delays and improve transparency in the ANZFRMC's determination of national policy on food standards.
  - **Improved food labelling laws and policies**: COAG asked the ANZFRMC to undertake a comprehensive review of food labelling law and policy, and to deliver it to COAG by early 2011. An independent panel, headed by Dr Neal Blewett AC, was established to conduct the review; its final report, *Labelling Logic—the Final Report of the Review of Food Labelling Law and Policy*, was released on 28 January 2011. The government is considering the report and will provide a response to the recommendations by December 2011.

### *Transport reforms*

- In July 2009, COAG agreed a number of transport reforms under the SNE NP. They were:
  - a new national heavy vehicle regulator will be responsible for all vehicles over 4.5 gross tonnes

  - a national rail safety regulator and investigator will be established
- The Australian Maritime Safety Authority will become the national safety regulator for all commercial shipping in Australian waters.
- Transport reforms will improve transport safety outcomes and improve the productivity and efficiency of Australia's transport networks by removing inconsistencies in jurisdictional requirements and harmonising regulatory arrangements to ensure national consistency. This will reduce transport costs and the compliance burden on the food industry and businesses.
- The Australian Transport Council and the Standing Committee on Transport are monitoring reform progress. Good progress has been made on these reforms to date.
- In May 2011, the Australian Transport Council supported draft National Partnership Agreements to establish three National Regulators and agreed to forward the Agreements to COAG for approval in mid 2011.
- The three new national regulators will reduce 23 regulators across the country and will be in operation from 1 January 2013.
- Queensland has agreed to host the heavy vehicle regulator and South Australia will host the national rail regulator, which will administer a single national Act covering all facets of rail safety, including operations, equipment standards and hours of work.

### *Road reform plan*

- Road reform under the SNE NP aims to improve national heavy vehicle road pricing to ensure more efficient, productive, safe and sustainable use and provision of freight infrastructure. It will benefit the food industry by providing safer, better maintained roads, and reducing travel time and costs.
- A study into the feasibility of more direct heavy vehicle charging, including mass distance location charging is expected by December 2011.

### *Chemicals and plastics reforms*

- The Australian Government has provided $8.8 million over four years to fund chemical regulation reform.
- The Australian Government's Better Regulation of Agricultural and Veterinary Chemicals (available at www.daff.gov.au/agriculture-food/food/regulation-safety/ag-vet-chemicals/better-regulation-of-ag-vet-chemicals) is a Better Regulation Ministerial Partnership between the Australian Government Minister for Agriculture, Fisheries and Forestry and his Parliamentary colleague, the Minister for Finance and Deregulation. The reforms aim to increase the efficiency and effectiveness of the Australian Pesticides and Veterinary Medicines Authority (APVMA) and enable more effective regulation of agriculture and veterinary chemicals.
- COAG, through its Business Regulation and Competition Working Group, directed that the Primary Industries Ministerial Council (PIMC) provide a detailed regulatory model, a funding model and an inter-governmental agreement for a single national regulatory framework for agricultural and veterinary chemicals.
- COAG has tasked the Product Safety and Integrity Committee (PSIC) with developing a consultation Regulation Impact Statement and a decision Regulation Impact Statement to feed into this directive. The PSIC comprises representatives from federal, state and territory governments, Consultations concluded in April 2011. PISC intends

incorporating stakeholder feedback into the decision Regulation Impact Statement on the national regulatory framework.

- In addition, in July 2008, COAG agreed to implement 18 early harvest reforms including:
  - mutual recognition between APVMA and FSANZ on maximum residual limits
  - exclusion of certain agriculture and veterinary products currently regulated by APVMA from the National Registration Scheme on the basis of risk
  - agriculture and veterinary chemical labelling reform
  - improved data protection provision for agricultural product registrants
  - faster, less costly regulatory processes for low risk agricultural and veterinary chemicals
  - various amendments to agriculture and veterinary legislation, including amendments to labels, trade issues, approved persons, permits and minor product variations.
- Most early harvest reforms have been completed and the two remaining should be finalised shortly. These reforms will create a new governance framework to help reduce the regulatory burden on food producers by streamlining and harmonising regulatory systems.

### *Trade measurement reform*

- Since 1 July 2010, a single national trade measurement system has replaced eight separate state and territory measurement systems and aligned Australian standards with the International System of Units. This means that businesses, whether suppliers of products or of the equipment to measure and weigh those products, no longer have to deal with different state and territory regulators and often different compliance and enforcement regimes.
- Establishment of a single national regulator, the National Measurement Institute, has reduced administrative costs for businesses operating across state and territory borders, with flow-on benefits to consumers.

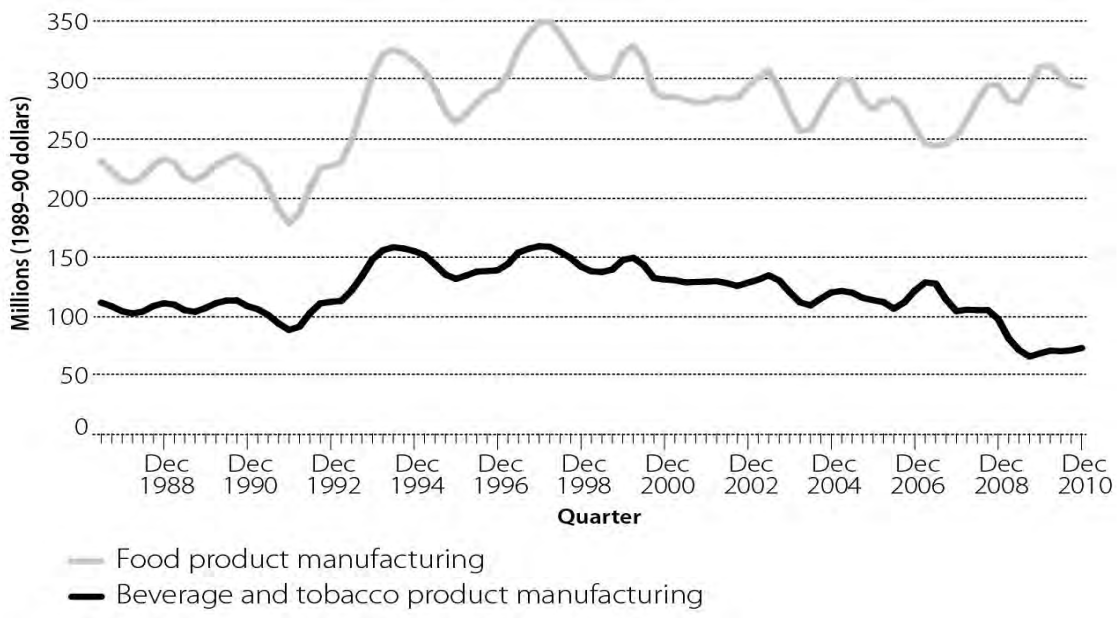
## 5.3 Investment

- Investment takes many forms in the food industry, including:
  - public and private sector investment in R&D
  - public and private sector investment in sustainable agricultural and fisheries production and food and beverage processing
  - food industry development of greenfield and brownfield capacity[5]
  - investment in human resource development.

### *5.3.1 Issues and drivers*

- The ability to attract new investment and retain existing investors depends on a range of factors. Apart from the prospective return on the investment itself, these factors include:
  - perceptions about managing the Australian economy and degree of sovereign risk
  - cost of doing business, including taxes and charges
  - intellectual property rights
  - flexibility of workplace arrangements and availability of a skilled workforce
  - reliability of high quality raw materials at competitive world prices year-round
  - size of the business and options it has to source investment capital (Agriculture and Food Policy Reference Group 2005)
  - access to good public research institutes that help drive investment by multinationals in countries agglomeration/concentration benefits
  - quality and availability of local infrastructure (such as, transport, power supply, telecommunications)
  - size of local demand for the product or service
  - proximity to major inputs and markets
  - relative cost of business inputs (for example, rates, electricity, rent, wages).
- The level of investment in agriculture appears to have increased over recent years. The largest contribution to increases in farm debt on broadacre and dairy farms has been borrowing to fund new investment, particularly purchase of land, machinery and vehicles, and to develop land and farm improvements. Overall, broadacre and dairy farms had strong farm equity at 30 June 2010 and between 2008–09 and 2009–10 new investment in machinery, vehicles, plant and improvements was the highest recorded in more than 20 years (ABARES 2011).
- Total domestic investment in new capital (that is, tangible assets including equipment, plant and machinery, and building and structures) by private enterprise in the food product manufacturing sector has been decreasing since 1998 (figure 5), but for the past few years has begun to trend upwards. Total investment in new capital in the beverage product manufacturing sector has also been decreasing steadily since 1994.

**Figure 5: Total new capital expenditure/investment by private enterprise, 1987 to 2010**




*Source*: ABS 2010b, *Private New Capital Expenditure and Expected Expenditure*, *Australia*, cat. no. 5625.0, Australian Bureau of Statistics, Canberra.

- To save on operating costs and ensure longer term sustainability, the food and beverage processing sector is investing in more energy efficient machinery and equipment (IBISWorld 2010). Australian farming and fishing enterprises continue to produce most agricultural and fisheries products consumed in Australia.
- In 2009 there were 12 624 food, beverage and tobacco processing businesses in Australia (ABS 2011c); most are locally owned and often specialise in higher value and gourmet products. In the past decade, corporate investors, both Australian and foreign (plus some sovereign wealth funds), have shown growing interest in large-scale agribusiness and agrifood investment in Australia.
- Foreign direct investment (FDI) offers clear benefits to Australia. Economic consultancy, Access Economics, reported in October 2009 that FDI contributes:
  - 37 per cent of R&D
  - 50 per cent of exported goods
  - 46 per cent of value of services exported
  - 14 per cent of employment (Access Economics 2009).
- Foreign investment, both direct (FDI) and indirect (portfolio), has always played a significant part in Australia‘s agriculture and food sector, from agricultural inputs like seeds, fertilisers and machinery, through to agricultural production, food and beverage processing, distribution, foodservice and food retailing, and domestic and international trading.
- More broadly, foreign investment plays a key role in supplementing domestic savings and by facilitating development and maintenance of new internationally competitive industries and businesses. Foreign investment has similarly facilitated modernisation of substantive sectors of the economy, and in turn driven efficiencies to enhance Australia‘s competitiveness.

- European and North American investors have long had a strong presence in Australia (for example, Schweppes opened its first factory here in 1877, followed by Nestlé in 1911, Cadbury, Kraft and Kellogg in the 1920s and Heinz in the 1930s) and have been significant players in the country's domestic food and beverage industry. Investment by leading European and North American agribusiness companies, like Clyde Agriculture and Cargill, as well as the multinational food and beverage processors, helped grow the Australian agriculture and food sector, and helped link Australia to world markets.
- From the late 1950s, as the Japanese economy grew, so did its FDI in Australia, including in agriculture and food; particularly the beef industry, but soon followed by food processing companies in other sectors. With the recent economic growth of major emerging economies like China, India, Brazil and others in Asia, has come growing overseas investment, including in Australia's agrifood sector.

**Table 2: Approvals for proposed foreign investment in agriculture, forestry and fisheries in Australia, 2005-06 to 2009-10**

| Financial year | Agriculture, forestry and fishing proposals (no.) | Value of agriculture, forestry and fishing proposals ($b) | Percent of total proposed investment in financial year (%) |
|---|---|---|---|
| 2009–10 | 17 | 2.3 | 1.0 |
| 2008–09 | 12 | 2.78 | 1.5 |
| 2007–08 | 11 | 2.49 | 1.3 |
| 2006–07 | 4 | 0.1 | 0.06 |
| 2005–06 | 2 | 0.01 | 0.01 |

Source: FIRB, *Annual Reports*, Foreign Investment Review Board, Canberra, available at http://www.firb.gov.au/content/publications.asp?NavID=5

- The data in table 2 may include proposals that are approved in a given year but which are not actually implemented, or could be implemented in a later year, or over a number of years. It may also include approvals for multiple potential acquirers of the same target company or asset. During this period the threshold for referral of proposals to the Foreign Investment Review Board increased from $50 million to $231 million.
- Australia competes against other locations to attract those firms that bring positive benefits to an economy. The OECD estimates there are more than 500 investment promotion agencies engaged in positioning their locations in international markets (OECD n.d.).

### 5.3.2 Current Australian Government approach

- Successive Australian Governments have recognised the importance of investment inflows (foreign and domestic) to expand the economy and improve standards of living over the medium to long term, by:
  - creating new jobs and supporting existing jobs with flow-on effects for regional towns and communities through local purchase of inputs, machinery and the general necessities of life
  - boosting innovation R&D
  - facilitating access to overseas markets and capital
  - introducing new technologies and techniques
  - making the food industry more competitive and profitable in world markets

- promoting a competitive environment within the business sector.

### *Domestic investment*

- The Australian Government has funded a number of broad-based domestic investment programs and initiatives to help food businesses, including the North West and Northern Tasmania Innovation and Investment Fund, Tradex, and Commercial Ready.
- The government is investing in regional communities, which play a significant role in Australia's food industry. The Minister for Innovation, Industry, Science and Research, Senator the Hon. Kim Carr, has identified regional communities as a priority area for the Cooperative Research Centre Program's 14th Selection Round (see www.crc.gov.au/Information/default.aspx), alongside clean manufacturing and social innovation.

### *Foreign investment*

- The Australian Government welcomes foreign investment. It has helped build Australia's economy and will continue to enhance the wellbeing of Australians by supporting economic growth and prosperity. The government also recognises community concerns about foreign ownership of certain Australian assets. The government's foreign investment policy seeks to balance potential sensitivities and economic benefits.
- The *Foreign Acquisitions and Takeovers Act 1975* provides the legislative framework for the Australian Government to review significant foreign investment proposals (those valued at $231 million or above, or any proposal involving a foreign government owned entity) on a case-by-case basis. Under the Act the Treasurer can block proposals contrary to the national interest or apply conditions to the way proposals are implemented to ensure they are not contrary to the national interest.
- In 2009–10, of 4404 foreign investment applications considered, only three were rejected (all of which were in the real estate sector: FIRB 2011). Since 2001, the government has rejected only two business proposals; one in 2001 in the resources sector and one in 2011 in financial services.
- The government recognises community concerns that foreign ownership of Australian farms could affect Australia's food supply capability. These concerns relate to uncertainties that foreign owned enterprises (particularly enterprises owned by foreign governments) could discriminate in favour their home countries in times of food shortages, rather than participating in fair commercial trade. Analyses to verify or refute these claims, however, are constrained by limited available data on the current level of foreign ownership.
- The government is addressing these concerns by taking action to strengthen the transparency of foreign ownership of rural land and agricultural food production. The Assistant Treasurer, the Hon. Bill Shorten MP, has asked the ABS to collect more information about rural land and water ownership in order to provide a better statistical picture of the foreign investment landscape (Ludwig and Shorten 2010).
- In addition, the Minister for Agriculture, Fisheries and Forestry, Senator the Hon. Joe Ludwig, has asked the Rural Industries Research and Development Corporation, in collaboration with ABARES, to report on the role and history of foreign ownership in developing Australian agricultural land and the factors driving foreign investment in Australia.

- The Australian Trade Commission (Austrade) is responsible for attracting and facilitating FDI into Australia, and for promoting Australia as an internationally competitive place to do business. Austrade helps international companies establish their businesses in Australia. It is also undertaking investment attraction work for Australia's food and beverage sectors (Australian Trade Commission n.d.).

### *5.3.3 Questions for consultation*

21. What are the main drivers of, and barriers to, domestic and foreign investment in Australia's food industry?

22. What would encourage more investment in the food industry?

23. For each part of the food industry, where can new or additional investment contribute to a more competitive food industry and to economic growth? Where do gaps currently exist:
    - along the food supply chain?
    - in technology or in skills?
    - in infrastructure to support the food industry?
    - other (please explain)?

Could these be addressed by productive foreign direct investment?

## 5.4 Capital stock and infrastructure

- Efficient infrastructure is a key driver of Australia's economic activity and productivity growth in particular. Logistics supply chains are critical input for the food industry, particularly for perishable products and products intended for export markets. Infrastructure is the foundation of a sustainable and efficient food supply chain.
- Investment in both capital such as buildings, equipment and machinery as well as private and public infrastructure are important factors that can contribute to productivity improvements in the food sector from primary production through processing to retail sale.
- Infrastructure, such as road, rail and air and sea port facilities are important in linking markets, growing the agriculture and agrifood services sector and ensuring continuity of food supply to Australia's population. Water infrastructure (see section 5.8 Water) is also critical to ensure the supply of sufficient, timely, and quality water to the food industry. In today's electronically linked markets both hard and soft infrastructure, energy and a national broadband network are critical in improving access to information and communications technologies to ensure efficient business operations, market development and enhancing quality production.

### 5.4.1 Issues and drivers

Australia's food supply chain infrastructure needs are affected by a number of long-term drivers.

#### Transport infrastructure

- Twenty-three regulators across all levels of government currently regulate maritime, rail and heavy vehicles in this country of 22 million people (Albanese 2011).
- Long distances between production site and market typify Australia's food supply chain.
- In 2009, Australia had over 800 000 kilometres of roads (350 000 kilometres of which were sealed), and around 37 000 kilometres of rail track (Bureau of Infrastructure, Transport and Regional Economics 2011).
- The total land freight task is currently 515 billion tonne kilometres, and is expected to double by 2030 (Bureau of Infrastructure, Transport and Regional Economics 2009). Around 25 to 30 per cent of Australia's road freight mass–distance (tonne per kilometre) is food, live animals and beverages (ABS 2008). Australia also transports around 10 000 tonnes of perishables by air each year (ABS 2008). This is a small yet valuable portion of the freight task—in 2008–09 the total value of air freight food exports was $1.66 billion (Maritrade n.d.).
- Over the next 20 years, container movements through ports are expected to increase 2.5 times over the current volume, from just over 6 million to almost 15.5 million units (Bureau of Infrastructure, Transport and Regional Economics 2010). Similarly agricultural export facilities, which often have unique requirements for loading infrastructure, may soon be forced to compete for space with container shipments at port facilities.
- The projected growth in Australia's population and the subsequent increases in freight, congestion and urbanisation will increase pressure on Australia's infrastructure. While sufficient rail networks currently exist in Queensland, livestock producers are concerned that the number of services available to transport livestock to processing facilities are insufficient to meet demand and are forcing animal transport onto roads.

### 5.4.2 Current Australian Government approach

The Australian Government addresses capital stock and infrastructure needs through record investment in infrastructure and policy and regulatory reform.

#### Overarching infrastructure

- Australia has an open market for transport infrastructure services. The Australian, state and territory and local governments provide the infrastructure that enables the market to operate effectively, supplying food products efficiently across the nation and to international destinations.
- The Australian Government is investing in infrastructure both financially and through nationally consistent policy reform, including:
  - In the six years from 2008–09 to 2013–14 the government will invest over $36 billion in transport infrastructure. This includes $22 billion for rural and regional transport infrastructure (Mrdak 2010) and $1.2 billion to the Australian Rail Track Corporation to fund 17 rail projects (DIT 2011a). Each project will

help reduce barriers between Australia's farms and national and international markets.

- In May 2011, the government released the National Urban Policy. The policy facilitates a whole-of-government approach to city planning, including Australian, state and local governments. It separates urban commuter transport from freight, thereby streamlining port access.
- Fair and efficient access to significant infrastructure that it is not feasible to duplicate is managed through the infrastructure access regime in the *Competition and Consumer Act 2010*. The government amended the Act in 2010 to improve the access regime by setting binding time limits and limited merit review, streamline administrative processes for decision-makers, and provide for infrastructure owners to seek decisions on whether infrastructure is eligible for access (DIT 2011b).

### *Transport reforms*

- On 23 February 2011, the Minister for Infrastructure and Transport, the Hon. Anthony Albanese MP, released the Australian Government's *National Land Freight Strategy: discussion paper* is a step towards establishing a national, integrated and multimodal freight transport system for Australia. This is an important step toward tackling Australia's freight challenges—much of the country's freight network is in a suboptimal state due to historic under-investment. Land freight traffic is predicted to double by 2020 as a result of population growth and increased trade, significant capacity constraints from urban congestion and lack of availability of urban transport corridors.
- The National Land Freight Strategy and National Ports Strategy will provide a more nationally coordinated approach to transport logistics. *The National Land Freight Strategy: discussion paper* has identified long-term goals for a national freight network, including improved economic, social and safety outcomes, vehicle capability and access, the application of smart technologies, appropriate separation of passenger and freight transport, and infrastructure and operational performance indicators (IA 2011). The National Ports Strategy aims to deliver efficient, sustainable and safe freight by bringing together government and private stakeholders in forward planning for each port, improving landside efficiency and promoting transparency, clarity and accountability (IA and National Transport Commission 2010).
- The Australian Government is also investing in innovative intermodal hubs, which will speed agricultural deliveries to international markets. For example, $300 million is committed to developing the Moorebank Intermodal Freight Terminal to provide an integrated transport solution for freight from, to and within Sydney, reducing freight costs and traffic congestion (DIT 2011a). It is spending a further $37 million on regionally located intermodal hubs, increasing the efficiency of shifting farm produce from road to rail.
- In 2009, the Australian Government initiated the Western Australian Grain Freight Review. The review and follow up studies examined the local grain freight supply chains to identify the most sustainable and long-term solution for grain freight. The Australian Government has since committed $135 million to three re-sleepering projects, which will ensure the long-term sustainability of rail freight and ensure rail freight remains competitive with road freight (KPMG 2009).
- The Australian Government is conducting specific regulatory reforms to increase consistency and address capacity constraints. Reforms will improve the way

infrastructure is planned and used in Australia. Through COAG, reforms to improve infrastructure regulation include creation of national heavy vehicle, rail safety and maritime safety regulators and reform of heavy vehicle road user pricing (DIT 2010).

- In 2009 all PIMC members agreed to harmonise all state and territory animal welfare laws. The Australian Government co-funded work under the Australian Animal Welfare Strategy to act on this agreement and all jurisdictions have reported to PIMC that this work is now complete. In addition, PIMC endorsed a national Standard covering the requirements for animal welfare during land transport of livestock. Work is underway to implement that Standard in a consistent manner under these newly harmonised state and territory laws.

### *5.4.3 Questions for consultation*

24. What are the key issues relating to infrastructure that positively or negatively affect the food businesses along the food supply chain? Is there a role for governments in addressing those issues?

25. What barriers to integrating new and emerging technology into Australian infrastructure hinder improvements to the efficiency of the food supply chain?

26. What regulatory conflicts in the passage of food or livestock on Australian infrastructure significantly impair the food supply chain?

## 5.5 Innovation

Traditionally, cost efficiencies gained through innovations (both technical and non-technical) have played a significant role in improving competitiveness in Australia's food sector. As resource constraints tighten and demand pressures intensify, innovation in production, product development, distribution and marketing will play an increasingly important role in maintaining global competitiveness and in meeting the needs of consumers.

Innovation can be product or process oriented and adoption and adaptation of incremental innovation within firms can provide significant social gain.

### *5.5.1 Issues and drivers*

- Productivity growth has been linked to R&D and technological innovation.
- Rural R&D[6] funding in Australia from government and the private sector for 2008–09 was estimated to be $1.5 billion (Productivity Commission 2010).
- Total Australian Government expenditure on rural R&D for 2008–09 was $710 million. This includes funding for Cooperative Research Centres, core funding for the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and universities, Rural Research and Development Corporations (RDCs), other programs and foregone revenue from the R&D tax concession (Productivity Commission 2010).
- Rural industries and the Australian Government collectively invest about $490 million in rural R&D through the RDCs in 2008–09 (Productivity Commission 2010).
- Total private sector expenditure on R&D for the Australian processed food industry appears to be trending up, at least in terms of current expenditure (table 3).
- Innovation in its many forms is critical for industry success. However, there is some consumer concern about the use of some new technologies in food production and food products (such as genetic modification and nanotechnology).

**Table 3: Private sector expenditure on R&D for the Australian processed food industry, 2004–05 to 2008–09**

| | 2004–05 $m | 2005–06 $m | 2006–07 $m | 2007–08 $m | 2008–09 $m |
|---|---|---|---|---|---|
| Capital expenditure | 249.81 | 284.64 | 268.15 | 272.23 | 270.93 |
| Current expenditure | 3222.41 | 3440.28 | 3567.55 | 4101.33 | 4077.51 |
| **Total** | **3472.22** | **3724.92** | **3835.70** | **4373.56** | **4348.44** |

*Source*: DAFF 2011a, *Australian Food Statistics 2009–10*, Department of Agriculture, Fisheries and Forestry, Canberra.

### 5.5.2 Current Australian Government approach

- The Australian Government encourages sustainable growth of Australian industries by developing a national innovation system that drives knowledge creation, cutting-edge science and research, international competitiveness and greater productivity while improving social and economic benefits for the Australian community. The Australian Government's innovation agenda *Powering Ideas: an innovation agenda for the 21st century* set a 10-year agenda. Its key foci are building innovation skills, supporting research to create new knowledge, increasing business innovation, and boosting collaboration (both domestic and international).
- Currently the government provides direct support through a number of broad programs available to support the food sector through research collaboration, business advice and co-investments in new technologies to aid innovation. Notable examples of such programs include:
  - The new R&D Tax Credit, which will replace the existing R&D Tax Concession, is designed to improve Australia's innovation and productivity performance in all sectors of the economy, including the processed food manufacturing sector. The new tax incentive provides increased levels of assistance for genuine R&D conducted by Australian companies, with a particular focus on small and medium enterprises which are more responsive to tax incentives.
  - The Australian Research Council funds research and researchers under the National Competitive Grants Program that includes the agriculture and food sector.
  - The Regional Food Producers Innovation and Productivity Program aims to boost the productivity and competitiveness of Australia's regional food and seafood industries through innovation and technology improvements.
  - The Climate Change Research Program funds research projects and on-farm demonstrations to help prepare Australia's primary industries for climate change and build Australia's agricultural sector resilience.
  - The RDC model is a partnership between the Australian Government and industry, funded by a co-investment model based on industry levies and matching government funding. It engages industry in funding and providing strategic direction for rural R&D and generates industry ownership and adoption of research outcomes. The Australian Government is currently considering the final report of a recent Productivity Commission inquiry into RDCs released on 15 June 2011.
  - The Rural R&D Priorities map the challenges facing Australia's rural industries and aim to foster innovation and guide R&D effort in the face of continuing economic, environmental and social change. Bodies that receive public funding

for rural R&D are expected to address Rural R&D Priorities in developing their investment strategies.

  - The National Primary Industries Research, Development and Extension (RD&E) Framework developed under the auspices of PIMC is encouraging greater collaboration and promoting continuous improvement in investing rural RD&E resources nationally.
  - The Australian Government released on 15 June 2011, the *Rural R&D Council's National Strategic Rural Research and Development Investment Plan*, which promotes a vision for the rural RD&E system, outlines a rationale for balancing Australian Government investment in rural RD&E and identifies key themes against which investment should be determined.
  - The CSIRO focuses on research in areas of the food industry including plants and grains, livestock industries, food and nutritional sciences and sustainable agriculture. CSIRO's work on food also helps support other government policies such as sustainability and health. For example, the CSIRO's Sustainable Agriculture Flagship aims to reduce the carbon footprint of Australia's land use while achieving the productivity gains needed for prosperous agricultural and forest industries and global food security; and its Food Futures Flagship works along the food value chain and has brought key innovations to bear at a number of points in the chain.
  - The Cooperative Research Centres Program provides funding to support end-user driven research partnerships to address clearly-articulated, major challenges that require medium to long-term collaborative efforts.

- The Australian Government encourages and participates in international linkages in R&D, for example:
  - The Australian Centre for International Agricultural Research (ACIAR) was established in 1982 to encourage Australia's agricultural scientists to use their skills to benefit developing countries while contributing to solving Australia's own agricultural problems. Australia is a world leader in agricultural research, much of which is directly relevant to the challenges and opportunities across a range of farming environments in developing countries in the Asia–Pacific region and sub-Saharan Africa. ACIAR commissions expert Australian research groups and institutions, and selected international agricultural research centres, to carry out research projects in partnership with their counterparts in developing countries.
  - The Australian Government's International Science Linkages Program and the Australia–India Strategic Research Fund support researchers to collaborate with international partners on leading-edge scientific research into food.

### *5.5.3 Questions for consultation*

27. How could the food industry develop more value-adding and product diversification opportunities? What stops businesses from doing this now?

28. What are the main drivers of and barriers to innovation in Australia's food industry as a whole, and also the sub-sectors and with the different business models that comprise the industry?

29. What would encourage more innovation in the food industry?

30. What are the top consumer priorities in product innovation over the next 5, 10 or 20 years?

31. What could government do, consistent with a market-based policy approach, to help the Australian food industry take a long-term strategic view to exploit growth opportunities?

32. How could the food industry make the most of emerging market opportunities, including niche markets such as food tourism? Could the Australian Government play a role in this area?

33. How could the food industry research and development agenda be improved to ensure more involvement from industry and more effective identification of its needs and the needs of consumers?

34. What should a successful, innovative Australian processed food industry look like in the short, medium and longer term?

35. What are the key areas for research and development investment that would produce the necessary productivity gains for the food industry?

36. How could the tension between new technology adoption (such as biotechnology or nanotechnology) and public concerns about possible associated risks best be managed?

37. What could government do to accelerate food and nutrition research and development to successful commercialisation outcomes?

38. What measures or alternative approaches could the government introduce or encourage that would facilitate greater use of public research facilities by small to medium enterprises in the food industry?

## 5.6 Education, labour and skills

Securing an adequate supply of suitable labour and improving the skills and productivity of the workforce is a major challenge for the agriculture and food sector, and affects all parts of the food supply chain. This is a challenge for a number of industry sectors at present, with the economy nearing full capacity. Table 4 provides a snapshot of employment and level of educational attainment along the different parts of the food supply chain. Food-related employment along all parts of the food supply chain is estimated to be in excess of 939 000 (this estimate does not include employment in the transport, postal and warehousing industry).

**Table 4: Number of people employed and level of educational attained, for selected industries**

| Industry | Employment (`000s) | No post school qualification (%) | Cert I or II (%) | Cert III or higher (%) | Proportion of food related employment in industry (%) |
|---|---|---|---|---|---|
| Agriculture, forestry and fishing | **377.9** | **57.4** | **7.3** | **34.2** | **97** |
| Transport, postal and warehousing | **578.8** | **51.9** | **4.9** | **42.1** | **Not available** |

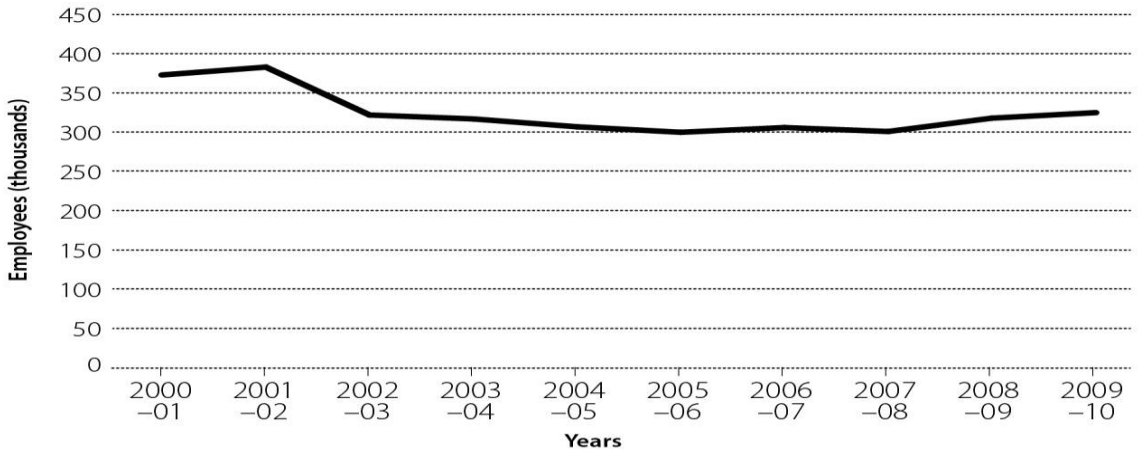
| | | | | | |
|---|---|---|---|---|---|
| Manufacturing | **994.8** | **45.7** | **3.6** | **49.6** | **20** |
| Retail | **1205.2** | **61.8** | **5.1** | **32.2** | **31** |

*Source*: ABS 2010a, *Labour Force Survey, ABS Survey of Education and Work*, Australian Bureau of Statistics, Canberra.
Note: Data extracted from Industry Employment Outlook documents on the DEEWR SkillsInfo website. Employment figures are a four-quarter average for 2010.

### *5.6.1 Issues and drivers*

- Employment in agriculture and fishing is generally concentrated on food production making this a useful focus for discussion around specific skills issues facing the food sector.
- Skills issues relating to manufacturing, transport and retail industries are also of interest in this context. However, labour market data for these industries specific to the food sector are not readily available. Consequently, the following discussion focuses on the agriculture and fishing sectors. The lack of available skills data for manufacturing, transport and retail industries for the food sector may be a hindrance to workforce planning.
- Employment in this industry sector is projected to increase by 1.4 per cent a year over the five years to 2015–16, representing 27 400 new jobs as it recovers from the drought. The impact of cyclone Yasi and extensive flooding in key agricultural areas is, however, likely to have a negative short-term effect.
- The decline in employment in agriculture has been underway since mid last century, representing a structural change as capital intensive farming techniques became widespread. As noted, with the sector now highly reliant on technology and innovation it needs highly trained and skilled labour. Other relevant factors include greater competition from international trade and greater competition for labour as a result of diversification of the Australian economy over the longer term.
- A noticeable drop in Australian farm employment since 2001–02 is essentially driven by widespread drought which affected farm performance across Australia (figure 6). With drought receding, since 2007–08 farm employment has begun to recover. Along with projected improvement in broadacre farm financial performance is projected for all states except Western Australia in 2010–11, the recovery in farm sector employment is expected to continue in 2010–11.

**Figure 6: Australian farm employment 2000–01 to 2009–10**




Source: DAFF 2011a, *Australian Food Statistics 2009–10*, Department of Agriculture, Fisheries and Forestry, Canberra.

- The agriculture, forestry and fishing industry has the third highest share of workers without a non-school qualification (57.4 per cent in 2010 compared with 39.3 per cent for all industries; DEEWR 2011). The industry also has a higher-than-average share of workers holding a Certificate I or II (7.3 per cent compared with 3.8 per cent for all industries). This is likely to reflect the older age profile of the sector, with qualification levels expected to increase over time as the industry places stronger emphasis on formal qualification levels.
- Across jurisdictions, well over 2000 industrial awards cover food-related workers in the aquaculture, food, beverage manufacturing[7], meat, pastoral, poultry processing, seafood processing, sugar and wine industries.
- The agricultural sector, like other sectors of the economy facing challenges to improve productivity and competitiveness, requires access to both a skilled and an unskilled labour force with an ability to adapt to changing conditions. While mostly unskilled labour is needed in horticulture-related work, much of agricultural food production is now a high tech, innovative industry requiring people with a mix of technical and innovation skills. Pressure is mounting from a limited supply of both unskilled and skilled workers. Australia‘s unemployment rate is low, although there are wide regional variations.
- When growth in labour demand varies across industry sectors and regions, flexible labour, education and training markets are critical for supporting economic adjustment and ensuring aggregate wages growth is consistent with productivity improvements. This in turn will help contain inflationary pressures during periods of high capacity use (such as the present). However, relative wage adjustment provides an incentive for individuals to change jobs, industries, regions and skill sets to meet the needs of a changing economy of which the food sector is part.
- The National Farmers Federation‘s *Labour Shortage Action Plan* (NFF 2008) indicates that the nature of labour shortages varies markedly across subsectors within agriculture. For instance, horticulture has a vast shortage of entry level workers, whereas broadacre requires skilled workers, such as shearers. The plan also suggested that 22 000 fruit-picking positions and 80 000 skilled jobs were vacant. Further, Agrifood Skills Australia suggested that the agrifood sector requires an additional 10 000 to 20 000 workers every year for the next five years (Agrifood Skills Australia 2010).

- The main factors preventing the agriculture industry filling its demand for workers are:
  - competition for employment from other industries (especially the mining industry, but also other industries that demand trade or service skills)
  - negative perceptions of the industry (including some views about agricultural working conditions)
  - lack of workforce planning in the industry, including investment in training to meet future labour needs and contribute to the skills development of the existing workforce
  - an ageing population and a declining rural population.
- Impediments to meeting the skills shortage include:
  - low industry participation in education and training
  - low numbers of undergraduates and graduates in tertiary agriculture courses
  - poor awareness of agricultural career pathways
  - competition from other industries providing more attractive salaries, conditions of employment, skills development and career opportunities
  - limited capacity of the current education and training system to deliver innovative training solutions.
- The Agrifood Skills Australia 2010 e-Scan highlighted four key skills and workforce development challenges for the agrifood sector. They include:
  - attraction of workers
  - adoption of higher skill levels across the workforce, including greater language, literacy and numeracy and digital proficiency
  - adoption and diffusion of new research , practice and technology across the industry
  - workforce retention and effective skills use (Agrifood Skills Australia 2010).
- While recent National Centre for Vocational Education Research and Agrifood Skills Australia e-Scan data show increased enrolments in 8 of the 10 agrifood training packages, overall completion rates for these are low (25.6 per cent). At the same time, completion rates for unit of competency enrolments are high (85.6 per cent).
- Australian Government skill shortage research indicates that demand for agricultural science graduates exceeds supply:

  > Shortages of agricultural consultants and scientists have persisted over the past three years and the labour market tightened further in 2010. Surveyed employers experienced particular difficulty filling positions for mid-level to senior roles and positions in more remote locations (DEEWR 2010a).

- Australian Government findings are consistent with independent workforce planning research indicating ‗there is demand for at least 2000 new graduates in agriculture per year. Australian universities now generate fewer than 800 graduates in agriculture per year' (Pratley 2008).
- This situation is set to worsen given the relatively high median age of agricultural scientists compared with all occupations (DEEWR 2010b), and a continued decline in commencements in the field of agriculture over the period 2001 to 2006.
- Universities have, for more than a decade to 2008, experienced declines in enrolment in agriculture-related subjects and a study by the Australian Council of Deans of Agriculture estimated that the number of graduates was much less than half that

needed to satisfy the job market for new graduates, and declining (Pratley and Copeland 2008). The balance of vacancies is being filled by less qualified professionals and the industry is less well serviced.

- Innovation in workplace training practices is needed to attract and retain new entrants to the field of agriculture, and to support transfer of knowledge from experienced workers (particularly those approaching retirement) to current workers and new entrants—this should be a focus of collaboration between industry and education partners.
- The industry's stated desire for a 'building blocks' approach to skills development is disconnected from the vocational education and training system's current focus on attaining full qualifications. A 'building blocks' approach requires attainment of individual units of competency, clusters of units of competency or skill sets defined within the sector's 10 training packages.
- The states and territories, which fund most of the sector's training, mainly focus on achievement of full qualifications, rather than on the 'building blocks' approach. This reflects COAG's upskilling targets. The issue of funding a 'building blocks' approach is complex. The agrifood sector claims this approach would allow it to become more engaged with the national training system. However, other stakeholders claim it would lead to deskilling and eroding of the trades.
- The demand for graduates in agriculture is strong and is likely to remain so.

### 5.6.2 Current Australian Government approach

#### Labour market assistance and workforce development

- Jobs Services Australia, introduced in July 2009, is an Australian Government funded service to help job seekers find ongoing employment. Jobs Services Australia provides flexible and tailored support according to job seekers' individual needs and circumstances.
- Disability Employment Services, which started in March 2010, helps jobseekers with a disability find employment.
- The 2011–12 Federal Budget foreshadowed a range of improvements to Jobs Services Australia and Disability Employment Services to give unemployed people more opportunities to find work.
- As part of the Building Australia's Future Workforce package, also announced in the 2011–12 Federal Budget, a National Workforce and Productivity Agency will be established from 1 July 2012. The agency will engage directly with industry on workforce development issues and address sectoral and regional industry needs. The agency will administer a new National Workforce Development Fund to support training and workforce development in areas of current and future skills needs.
- As part of its response to the global financial crisis in 2009, the government established 20 priority employment areas in regions likely to experience labour market disadvantage. Local employment coordinators work in these areas to help drive local solutions to local labour market problems.
- A low skilled labour mobility initiative, the Pacific Seasonal Worker Pilot Scheme, has been introduced in response to industry claims that hundreds of millions of dollars worth of produce was left in the field due to lack of a secure harvest labour force.

- The Australian Government also manages the Harvest Labour Service which helps primary producers find out-of-area workers for harvest work where there is a known seasonal labour shortfall. Apart from the impacts of recent floods and cyclones, the demand for Harvest Labour Service has been falling due to a range of factors including increasing mechanisation of some crops and growing use of contract labour hire companies.
- The Australian Government funds 11 industry skills councils to actively support development and continuous improvement of training packages, to engage in workforce development activities and to provide advice to government, Skills Australia and industry on workforce development and skills needs. The AgriFood Skills Australia industry skills council covers the rural and related food processing (including beverages, wine and pharmaceutical) meat and seafood industries.
- A range of targeted Australian Government programs are also available for use by industries and employers in workforce development, spanning the skills pipeline from engaging with school students to upskilling current workers and mature age participation.

### *Regional education, skills and jobs plans*

- The Australian Government's strategy to improve productivity and participation in regional Australia will be enhanced through development of localised regional education, skills and jobs plans.
- The government will provide funding of $19.1 million over three years to deploy 34 education, skills and jobs coordinators in regional communities across the country. These coordinators will work with local stakeholders, including Regional Development Australia committees, to develop regional education, skills and jobs plans to improve participation and outcomes in education, training and employment in regional Australia.
- These plans, built from local knowledge, can then be drawn upon to inform the delivery of a range of government policy and programs.
- This work recognises the significant investment made in education, skills development and employment initiatives nationally and the need to ensure good local and regional awareness of the opportunities that new and existing investments present. Developing regional education, skills and jobs plans will help meet this goal.

### *Workplace relations*

- Several important changes in Australia's workplace laws occurred on 1 January 2010. The changes include creation of a new national workplace relations system underpinned by a safety net for all employees in the national system, comprising 10 National Employment Standards and 122 modern awards. This includes creation of the Horticulture Industry Award 2010 applying to most employees in the horticulture sector throughout Australia.
- Modern awards replace a number of previously existing industrial instruments including state awards, notional agreements preserving state awards, federal awards and Australian Pay and Classification Scales.
- Employers and employees also have new rights and responsibilities to achieve fairness and flexibility in the employment relationship with a focus on enterprise level bargaining.

- The new national workplace relations system covers most workplaces in Australia. The Western Australian Government decided not to refer its workplace relations powers to the Commonwealth at this stage. All sole traders, partnerships, unincorporated entities, non-trading corporations and public sector employers in Western Australia remain in their state system.
- The Australian Government's focus on enterprise-level bargaining in the workplace relations system supports labour market adjustment by allowing wages to grow more strongly in sectors that need labour.

#### *Education and training*

- Following its *Review of Australian Higher Education* (Bradley et al. 2008), the government announced it would implement a demand-driven funding system from 2012 and allow the university sector to respond more effectively to student demand for high value skills, supporting individuals to respond to incentives in the labour market.
- Measures announced in the 2011–12 Federal Budget will also provide additional funding for regional universities.
- The Australian apprenticeship system provides pathways for skills formation in more than 500 occupations and combines training and employment to lead to a nationally recognised qualification.
- The Australian Government is reforming the Australian apprenticeship system to help address skill shortages, while also improving apprenticeship completion and retention rates. The reform started with an independent report, *A Shared Responsibility – Apprenticeships for the 21st Century*, released in February 2011. The report outlined a number of recommendations including improving targeted incentive payments, work-based training initiatives and allowing competency-based progression.
- The apprenticeship reform measures of the Building Australia's Future Workforce package announced in the 2011–12 Federal Budget represent the government's initial direction setting response to the recommendations of the *A Shared Responsibility – Apprenticeships for the 21st Century* report. The measures include investment in mentoring and trials of more efficient apprenticeship models. The government will undertake further consultation during 2011 with employers, apprentices and other stakeholders on the next steps.

#### *Contribution of migration*

- Australia's migration framework contributes to the labour supply available to the agriculture, forestry and fishing industry. In addition, provision of skilled labour through employer-sponsored temporary and permanent migration, and non-sponsored migration (including working holidays) contribute to supply of labour to meet seasonal needs.
- One of the avenues available to employers to help meet labour needs is use of employer sponsored temporary migration, known as 457 visas. The volume of new 457 visas issued to workers in the agriculture, forestry and fishing industry has varied broadly from year to year since 2008. At the end of January 2011, 457 visas held by people working in this industry accounted for 2.6 per cent of total primary 457 visa grants. This is similar to the proportion of people estimated to be employed in agriculture, forestry and fishing as a percentage of total employment in the Australian labour market (3 per cent).

### *5.6.3 Questions for consultation*

39. Are there labour supply issues with skilled and professional workers in the food industry? If so, what are they, and what causes them? What particular skills or professions are in short supply and why? Is there a role for government in improving the supply of skilled and professional staff?

40. What aspect of workforce development for the food industry should take priority? Why? Possible choices may include (but are not limited to) building an evidence base, initiatives to attract and retain appropriately skilled people, training to upskill existing people, labour mobility, migration.

41. Could the Australian Government's current range of initiatives designed to meet the current and future skills needs of employers be used to develop a skills strategy or plan for the food industry? How?

42. Are you aware of programs to attract and retain new entrants to the field of agriculture working? If yes, how could these programs be improved?

43. What could be done to use growing student interest in environmental issues to meet the skills needs of the food industry? (For example, the decline in supply of agricultural science graduates has corresponded with growth in environmental science graduates—there are crossovers and shared interests for these study pathways).

44. What could food businesses do that would enable them to function effectively with a less abundant supply of labour? Are there any barriers to making these changes?

## 5.7 Biosecurity

Biosecurity is management of risks to Australia's economy, environment, and community, of pests and diseases entering, emerging, establishing or spreading in Australia.

### *5.7.1 Issues and drivers*

- Australia remains free from many pests and diseases that affect agriculture, natural and built environments, and people in other parts of the world.
- This favourable biosecurity status confers significant economic, environmental and community benefits and safeguards on what matters most—Australia's people, environment and businesses.
- The cost of a foot and mouth disease outbreak in Australia has been estimated at between $2 billion and $3 billion for a short outbreak, rising to between $8 billion and $13 billion for a 12 month outbreak (Productivity Commission 2002).
- Each year Australia deals with about 2 million sea cargo containers, 400 000 air cargo containers, 13.7 million airline passenger and crew clearances, 14 500 ships, 68 000 aircraft and 140 million incoming international mail items; and the volume continues to grow (DAFF 2010c).
- In 2009–10 the Australian Government processed over 5000 live animal imports and over 36 000 hatching eggs; it received over 21 000 import permit applications and completed more than 500 animal or other product risk assessments. The Australian Government completed six import risk analyses, seven significant analyses of existing import policies and more than 1000 other minor risk assessments for a variety of commodities (DAFF 2010a).

- Risks to Australia's biosecurity status are increasing. The trends that will affect the management of the biosecurity system include growth in passenger and trade volumes, importation of new and different products from a wider variety of countries, alteration of pest and disease pathways as a result of climate change, continued population growth and spread, and shifting demographics.

### 5.7.2 Current Australian Government approach

- The Australian Government's aim is to minimise the impact of pests and diseases while facilitating trade and movement of people and goods to, from and within Australia consistent with the WTO Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement). This is vital for continued productivity and competitiveness of Australia's agricultural and food industries.
- Australia has a strong and effective biosecurity system; however, experience and a number of independent reviews, such as the Beale review (Beale et al. 2008) and the Callinan inquiry (Callinan 2008), have shown that improvements can be made. It is imperative that the Australian Government position itself and stakeholders to respond to any future challenges to Australia's biosecurity.
- The Australian Government applies measures to import and export operations across the biosecurity continuum to manage biosecurity risks. The government's main role is to conduct activities offshore and at the border. It also plays a coordination and leadership role in developing national policies, in particular emergency response arrangements to nationally significant pests and diseases.
- The Australian Government undertakes a range of activities to minimise the likelihood of exotic pests and diseases arriving in Australia. Activities include analysing import risk; conducting offshore assessments, treatments and inspections; building capacity with near neighbours; and participating in international standard setting forums.
- The Australian Government assesses and manages biosecurity risks at the border, including through the Australia Quarantine and Inspection Service (AQIS). Activities include targeting goods and vessels arriving in Australia for intervention, such as inspection or treatment, screening international passengers for biosecurity risks, and managing the high biosecurity risks of live animals and plants through quarantine.
- At the border the Australian Government also ensures exporters meet the requirements of importing countries by providing specialised export inspection, auditing and verification. This helps to ensure that foreign government requirements and Australia's international obligations are met and maintains exporters' access to international markets
- A number of Australian Government reform initiatives to improve biosecurity business systems, reduce regulatory burden and strengthen national and international working partnerships are underway. These changes will enable efficient and effective management and operations that keep pace with a dynamic global trading environment. Many improvements are being made to Australia's biosecurity system including:
  - shifting to a risk-based operational framework across the biosecurity continuum
  - implementing risk-based intervention strategies to replace previously mandated intervention targets, following trials at airports, mail centres, and seaports
  - progressing a framework to support risk-based interventions, including associated data and analytical systems, and early scoping of risk management arrangements

- implementing the Export Certification Reform Package to progress regulatory and food supply chain reforms
- examining ways to underpin significant upgrades of information and communications technology and future arrangements for post-entry quarantine
- amending legislation enabling the Australian Government to enter into compliance agreements with food importers, formally recognising their food safety management systems
- negotiating the draft Intergovernmental Agreement on Biosecurity between the Australian, state and territory governments, enhancing the collaborative effort to improve the national biosecurity system[8]
- establishing the Biosecurity Advisory Council to provide the minister with independent advice on biosecurity activities
- appointing the Interim Inspector General of Biosecurity to undertake systems audits and reviews.

## 5.8 Water

Access to clean, safe and reliable supplies of water is critical for efficient functioning of a food production and processing system. Efficient water use is important to the success of the food industry overall.

### *5.8.1 Issues and drivers*

- Sixty-six per cent of Australia's water is used by agriculture with food processing using a further 1 per cent (DAFF 2008).
- Rainfall in Australia is highly variable and seasonal water availability has a significant effect on agricultural output.
- Managing uncertainty in water availability has been a key challenge for farm businesses, including irrigators.
- The separation of land and water, supported by peak agricultural groups, has allowed water to be traded.
- Establishment of a water market for both permanent (entitlements) and temporary (allocation) water has allowed high-value users of water to maintain production capabilities by purchasing water from low-value users, including to meet seasonal shortfalls in water availability.
- Placing a market value on water and allowing it to be traded within hydrological limits has allowed it to be properly valued as an agricultural input and has led to more efficient use of land and water resources.

### *5.8.2 Current Australian Government approach*

- The long-term future of agricultural industries is dependent on ensuring sustainable water use. The Australian Government recognises the need to improve management of water for agriculture, particularly in the Murray–Darling Basin given its variable rainfall patterns and high concentration of water dependent industries, and is helping farmers adapt to reduced water availability in a changing climate.
- The independent Murray–Darling Basin Authority is developing a basin plan with input from state governments, stakeholder groups and the community. It is expected to be presented to parliament in early 2012.

- Australia‘s rural industries are best served by a water infrastructure network that moves water efficiently and with minimal conveyance losses. Supported by fully functional water trading markets, an effective system of rural water infrastructure can be expected to more efficiently combine land and water resources thereby increasing the productivity of Australia‘s food production industries.
- Under the Water for the Future Program, the government is investing more than $12 billion and undertaking significant reforms to better balance the needs of communities, farmers and the environment.
- The government has committed $5.8 billion in funding for water infrastructure and efficiency water management under the Sustainable Rural Water Use and Infrastructure Program, and of this, around $4.8 billion is currently committed for the Murray–Darling Basin. This investment will help place irrigators, irrigation industries and communities on a better footing to deal with a variable climate.
- The government‘s investment will contribute towards ‗bridging the gap‘ to the new sustainable diversion limits under the basin plan and will also return a share of water savings to irrigators and regional communities. Key programs within the Sustainable Rural Water Use and Infrastructure Program include 15 state priority projects (total ~$3.7 billion), as well as the Menindee Lakes project (up to $400 million), the On–Farm Irrigation Efficiency Program ($300 million), Strengthening Basin Communities Program ($200 million), and $140 million for irrigation developments and efficiency upgrades in Tasmania.
- The Australian Government is working with the states to develop a National Water Market System as part of the Water for the Future Initiative. It encourages efficient allocation of water and facilitates productive irrigation industries through improved transactions and market information functions.
- The National Water Market System has three elements, namely:
  - development of the National water market website www.nationalwatermarket.gov.au
  - development of high performance state and territory water registers
  - seamless data transfer between water registers (interoperability).
- The Australian Government recognises that the community‘s concerns over foreign ownership of land also extend to water. See section 5.3 Investment.

## 5.9 Land

Access to productive agricultural land is critical for food production.

### *5.9.1 Issues and drivers*

- Competition for agricultural land occurs from a number of other uses, such as mining and urban development.
- A recent report commissioned by the Australian Government, looking at the long-term physical implications of net overseas migration indicated that displacement of agricultural land by urban expansion is likely to occur in Sydney, but not in Melbourne or Perth.
- Competition for land is likely to increase as population expands. Population growth will occur predominately in cities and competition for land, particularly on the urban fringe has the potential to displace food production.

- The effect of urban displacement of food production is not well understood and it is too early to assess the effect, if any, on the food sector or consumers. However, urban development encroaching on rural land in a piecemeal fashion can result in onerous restrictions on noise, odour and stock movements. Conversely, attempts to protect agricultural land can result in restrictions that stifle non-farm development and other changes that can help maintain farm business viability.

### *5.9.2 Current Australian Government approach*

- Decisions about land use planning and zoning are primarily the responsibility of state, territory and local governments. In response to community concerns about loss of farming land, a number of states have developed, or are reviewing, policies for protecting prime agricultural land.
- The Australian Government encourages state and local governments to pursue policies that provide a sensible basis for managing competing land uses.
- The Australian Government recognises community concerns about sale of rural land and agricultural businesses to foreign investors, and is addressing these concerns by strengthening the transparency of foreign ownership of rural land and agricultural food production.

# 6. Sustainable food industry

Sustainability is about ensuring the wellbeing of next generations is at least as high as that of preceding generations and includes economic, social and environmental issues, some of which are tangible and quantifiable, and others that are not.

This chapter addresses sustainability from four perspectives: social and economic sustainability of communities; role of natural resource base and biodiversity; climate change impacts, adaptation and mitigation; and environmental performance of the food supply chain.

## 6.1 Social and economic sustainability of communities

- The social and economic sustainability of food production and processing communities depends on a number of factors, including but not limited to:
  - access to productive land or seas
  - international trade fluctuations
  - availability of labour and training
  - climate change
  - positive farm or fishery returns
  - adequate financial capital
  - social cohesion
  - the ability to draw on regional social capital
  - the ability to build managerial skills and entrepreneurship to influence farm returns.
- Sustainable communities offer healthy, vibrant environments for people to make connections and build strong, enduring relationships which nurture quality of life, productive employment and income opportunities.
- Governments can aid sustainability (as broadly defined) by ensuring markets are well functioning including by correcting market failures.

### *6.1.1 Key issues and drivers*

- Over 90 per cent of employment in the food production industries (that is agriculture, aquaculture, and fishing hunting and trapping) is located in rural and regional areas. Additionally, 43 per cent of employment in the food processing industries is located in rural and regional areas (ABS 2007a). Overall, the food industry[9] represents 16 per cent of total employment in regional areas compared with only 6 per cent in major cities (ABS 2007a).
- However, some food production is located close to urban centres. For example, a large proportion of employment in market gardening is located in local government areas in major cities such as Playford in South Australia, Liverpool in New South Wales and Wanneroo in Western Australia (ABS 2007a). Significantly, 57 per cent of employment in food processing is located in major cities. An innovative and expanding food sector could therefore provide significant income and employment opportunities for both rural and urban communities as well as creating opportunities to build new transferable skills.
- As with any industry, fluctuations in market conditions and competition variables can affect these communities from time to time. For example, Australia exports over 50 per cent of food production each year (DAFF 2011a) so fluctuations in international

trade can create fluctuations in economic opportunities. Because most food production activities are seasonal, such fluctuations can also create opportunities for income diversification from both farm and off-farm work. It is not uncommon in these circumstances for the local population to provide base labour needs while mobile workforces, such as those on working holidays, provide seasonal services such as fruit-picking and packing to match demand.

- Table 5 illustrates the ways in which the economic and social wellbeing of particular communities are interlinked with Australia's food industry.

**Table 5: Australian communities and the food industry**

| |
|---|
| **Conargo (New South Wales)** is predominately a rural shire in the Riverina where nearly 67% of the workforce is employed in the agriculture sector (compared with only 3% for Australia). Most of this employment is in dairy and beef cattle farming, grain growing and specialised sheep farming. These sectors are vulnerable to environmental factors such as floods, locusts, weeds and water availability. |
| Of all Australian local government areas, **King Island (Tasmania)** has the highest proportion of its employment in the food manufacturing sector (20% compared with 2% for Australia). In addition, 25% of the workforce on the island is employed in the agriculture sector, in particular, in dairy and specialised beef cattle farming, and a further 5% is employed in the fishing, hunting and trapping sector. The food industry is also interlinked with tourism on the island. |
| **Port Lincoln (South Australia)** local government area has the highest proportion of its employment in the fishing, hunting, trapping and aquaculture sectors (11% compared with less than 1% for Australia). In addition, 5% of employment is in the food manufacturing sector. Most of Australia's Southern Bluefin Tuna quota is farmed in waters off Port Lincoln. |
| **Greater Shepparton (Victoria)** is an example of a larger labour market with a more diverse economic base than some smaller local government areas that is still significantly reliant on agriculture and food manufacturing, with 17% of employment in these sectors (compared with 5% for Australia). Across the agriculture sector in the region, people are employed in fruit and tree nut growing, apple and pear growing, beef cattle farming, grain sheep or beef cattle farming and stone fruit growing. Food manufacturing accounts for over half of total employment in the manufacturing industry, which is the largest industry in the region by value added and output*. |

*Sources*: All employment by industry figures are from ABS 2007, 2006 Census of Population and Housing, Australian Bureau of Statistics, Canberra. * Compelling Economics 2009, *REMPLAN economic modelling and analysis system*, available at www.remplan.com

### *6.1.2 Current Australian Government approach*

- The Australian Government is committed to improving the social, economic and environmental outcomes for all of Australia's regions, in collaboration with local communities. Communities are the drivers of change in their regions, are aware of local opportunities and capabilities and are best placed to identify their priorities for improving regional outcomes and building a better future.
- The government is delivering over $4.3 billion of initiatives commencing 1 July 2011 to ensure individuals and communities across regional Australia share in the nation's prosperity. This includes:
  - $1.8 billion over six years to provide critical infrastructure upgrades to hospitals and health services for regional Australians through the Health and Hospitals Fund regional priority rounds
  - $500 million over five years to strengthen regional higher education and vocational education and training institutions, through the regional priorities round of the Education Investment Fund

- $109.9 million over four years for universities with regional campuses through increased and better targeted loading payments to regional areas
- $916 million for the first projects under the Regional Infrastructure Fund to help unlock the economic potential of the regions
- $1 billion over five years through the Regional Development Australia Fund to finance infrastructure projects that best fit the economic and community needs of the regions.

- The government is working with industry and the community to foster a sustainable and resilient food supply and to ensure the overall socioeconomic sustainability of the entire food supply chain across Australia.
- The government is developing a sustainable population strategy for Australia: *Sustainable Australia – Sustainable Communities, A sustainable population strategy for Australia* (DSEWPaC 2011). The strategy outlines the government's framework for a sustainable Australia to ensure future population change is compatible with the economic, environmental and social wellbeing of Australia.

### 6.1.3 Questions for consultation

46. What else could governments or non-government groups do to promote economic and social sustainability of food production, processing, or distribution (including resilience to economic or other shocks)?

47. What region-specific issues should be taken into account in a national food plan?

48. Who will be farming in 2030 (and 2050)? What will farmers' relationship to the land be (ownership, management, leasing) and what are the implications of this for social sustainability of farming communities?

## 6.2 Role of natural resource base and biodiversity

Food production depends upon and affects natural resources. The capacity of natural resources to provide food and other ecosystem services, including fresh water, clean air and biodiversity, will influence development of the food industry over the short and long term.

### 6.2.1 Issues and drivers

- The capacity of natural resources to produce food can be improved to some extent through management practices and modifying inputs, such as irrigation, fertiliser and energy. Adoption of minimum or no-till management practices over the last 20 to 30 years has reduced soil erosion and improved productivity. However, nationally, the proportion of landholders adopting sustainable practices, such as stubble retention and direct-drilling, remains below 60 per cent (ABS 2009a).
- The Australian public is expressing concern that access to natural resources may be decreasing due to land use conflict between agriculture and non-agriculture uses such as mining, conservation and urban encroachment.
- Australia's agriculture systems rely heavily on inputs to increase productivity. Purchased fertilisers and water allocations are likely to decrease in availability and increase in cost; and the cost of energy is expected to increase. Irrigation infrastructure will need to become more efficient. Despite considerable progress, there is increasing pressure on natural resources and the need to do _more with less'.

- Due to a decline in Australia's biodiversity, the community expects agricultural land managers to:
  - manage natural resources to achieve environmental outcomes (such as, water allocation and land use)
  - increase environmental services (such as, critical habitats for species)
  - reduce negative off-site impacts (such as, nutrient runoff).
- The condition of natural resources has degraded in some areas and threats are increasing from pests and weeds and from climate change.
- The distribution and impact of pests and weeds is likely to change in the coming decades. Weeds, such as annual rye grass, are developing resistance to a wide range of herbicides, and the distribution of insect pests has changed in the last 20 years. Minimum or no-tillage farming systems have caused an increase in insects (both pest and beneficial) and a consequential increase in pesticide use (Hoffmann et al. 2008).
- Many Australians are concerned about the impact of pesticide use on the environment.
- Wild capture fisheries rely on the natural environment for their production and are vulnerable to environmental variability (including climate change). With the most productive fisheries located in coastal areas and on the continental shelf, loss of fish habitat from natural and anthropogenic stresses is a threat.
- Aquaculture production can be negatively affected by land run-off through pollution and/or contamination as a result of poor catchment management and can be adversely affected by other changes to the physical and chemical environment.
- It is relevant to consider the capacity of the food supply to meet national nutrition recommendations. The recent report from the Prime Minister's Science, Engineering and Innovation Council, *Australia and Food Security in a Changing World,* notes:

> Based on the National Nutrition Survey (ABS 1995) data, it is likely that to meet nutritional recommendations, there will need to be a shift to increase demand for vegetables (particularly legumes), fruit, wholegrain cereals and nuts. Sustained supplies will be required of fish and seafood, poultry, eggs, red meat and of low fat dairy products. There are some indications that fruit availability may not meet requirements. From a nutritional perspective then, current Australian food supplies would seem to promote the health of Australians but horticultural food production may need to be monitored for stability of supply (PMSEIC 2010).

### 6.2.2 Current Australian Government approach

- The Australian Government is investing in maintaining and improving natural resources and recognises the contribution from farmers, fishers, industries and the community. Investment is prioritised based on cost effectiveness and prevention of degradation.
- The government facilitates the ecologically sustainable development of agricultural and fishing industries which includes protecting the natural resource base upon which the industries depend.
- This requires policies and programs that promote an integrated approach to natural resource management between government, industry and the community.
- A key objective is to maintain or enhance the resilience of ecosystems and production systems in the face of changing pressures and demands.
- The Caring for our Country Initiative ($2 billion over 5 years from 2008–09) is the Australian Government's main environmental management initiative. It aims to

achieve outcomes across six national priority areas including sustainable farm practices. The government is currently reviewing the initiative.

- The government is investing more than $12 billion under the Water for the Future program and undertaking significant reforms to better balance the needs of communities, farmers and the environment.
- Community participation in decision making is led by the Australian Landcare Council and through wider community representation on competitive assessment panels. Community participation in natural resource management is also supported through grants (such as Community Action Grants). Landcare Australia Limited and the national and regional Landcare facilitators also support community and regional interests, developing linkages to companies and raising awareness of and support for Landcare and sustainable agriculture.
- The government provides financial support to encourage research, development and extension through research and development corporations, monitoring and evaluation outcomes from policy and programs, and provides tax incentives for property management planning.
- The CSIRO's Sustainable Agriculture Flagship aims to reduce the carbon footprint of Australia's land use while achieving the productivity gains needed for prosperous agricultural and forest industries and global food security. The Flagship provides a critical integration function for knowledge and technologies relevant to sustainable farming systems adapted to Australian soils, climates and regional circumstances. A key challenge is to maintain or grow productivity needed:
  - for prosperous rural industries, and reduce net greenhouse emissions
  - to meet national and ultimately global targets for atmospheric carbon.
- As these twin goals are also global goals, CSIRO engages international partners on science for food security and greenhouse gas abatement from rural lands. The national goal of the Sustainable Agriculture Flagship is to secure Australian agricultural and forestry industries by increasing productivity by 50 per cent and reducing net carbon emissions per unit of food and fibre by at least 50 per cent between now and 2030. Specific targets include:
  - achieving total factor productivity growth across Australia's key agricultural industries of at least 2 per cent a year over the next 20 years
  - reducing the greenhouse gas emissions per unit of food and fibre production by at least 50 per cent by 2030 through a mix of productivity growth, emissions reduction and carbon storage in soils and vegetation (CSIRO 2011).
- The government promotes sustainable resource use through national policy frameworks (such as the Native Vegetation Framework and policies for invasive species) and through support for regional natural resource management and catchment planning.
- Markets for ecosystem services are being promoted to achieve multiple benefits. There is currently a market for water and a carbon market is developing.
- The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth), aims to provide for the protection of the environment, especially matters of national environmental significance identified in the Act, while promoting ecologically sustainable development through conservation and ecologically sustainable use of natural resources.

- The *Environment Protection and Biodiversity Conservation Act 1999* also aims to integrate environmental management of Commonwealth managed fisheries by requiring them to undergo strategic assessment, including their affect on other species and ecosystems.
- Responsibility for managing and exploiting Australia's fisheries resources is divided between the Commonwealth and the states and the Northern Territory and in some cases is shared. Fisheries legislation covers most fishing activities and explicit consideration is given to ensuring ecological sustainability in the exploitation of fisheries.
- The Australian Government will develop a strategy on sustainable use of pesticides, which was included in a package of measures announced in May 2011. It will aim to reduce the unwelcome human and animal health and environmental effects of chemical use in Australia and encourage a shift from higher to lower risk chemicals.

## 6.3 Climate change impacts, adaptation and mitigation

- The Australian Government is strongly committed to reducing Australia's carbon pollution including by putting a price on carbon.
- The global importance of the agriculture sector means actions to address climate change must also consider the growing demand for food in a carbon constrained world.
- The Australian Government has identified agriculture as a national priority for adaptation action in its position paper, *Adapting to Climate Change in Australia* (DCC 2010).
- The Australian Government's Carbon Farming Initiative will provide benefits for landholders who reduce their greenhouse gas emissions.

### *6.3.1 Issues and drivers*

Various issues and drivers affect climate change mitigation and adaptation.

#### *Emissions and mitigation*

- In 2009, agriculture produced an estimated 84.7 Mt $CO_2$-e emissions or 15.5 per cent of national greenhouse gas emissions (DCCEE 2011). The agriculture sector is the dominant national source of both methane and nitrous oxide—accounting for 65.3 Mt $CO_2$-e (57.9 per cent) and 19.5 Mt $CO_2$-e (74.5 per cent) respectively of the net national emissions for these two gases. These figures are for direct land-based agricultural emissions and do not include emissions from energy and transport inputs to agricultural production, or emissions from food processing or transportation.
- Given this significant contribution to Australia's emissions, the agriculture sector could play an important role in climate change mitigation.
- Opportunities exist to reduce emissions across the food supply chain in ways that also increase productivity, thus providing for sustained increases in food production and availability.

#### *Impacts and adaptation*

- Agriculture productivity will be affected by a number of climatic factors including increasing temperatures, changing rainfall patterns, droughts and extreme weather events.

- Climate projections show that these factors will change under climate change. CSIRO and Bureau of Meteorology (CSIRO 2007) projections show that:
  - temperatures in Australia could increase by 2.2°C to 5°C by 2070
  - annual rainfall in south-west Australia could reduce by up to 10 per cent, and by 2 to 5 per cent elsewhere in southern Australia
  - drought occurrence could increase over most of Australia, but particularly in south-west Australia
  - Australia's climate will remain highly variable with the early effects of climate change being felt through gradual changes in mean temperature, as well as through likely changes in the frequency, duration and/or intensity of extreme events, such as droughts, heatwaves, fires and floods
  - although there may be more dry days, when it does rain, rainfall may be heavier than previously experienced in the region
  - hot days and warm nights are projected to become more frequent.
- Climate changes are likely to affect agriculture productivity, due to plant and animal heat stress, reduced predictability of seasons, crop and livestock losses from flood and drought and changes in regional suitability of certain production systems.
- Australian farmers could be exposed to significant production risks from climate change on geographic, economic and temporal scales, specifically:
  - **Geographically**: risks from climate change will not have an equal impact across Australia's primary production areas.
  - **Economically**: increases in climatic variability are likely to see corresponding increases in profit variability. Export markets will be affected by climate change and Australian producers will need to manage their risks to ensure continued supply to such markets and seize opportunities to fill any global food shortfalls as a result of climate change.
  - **Temporally**: these risks could come as either gradual or abrupt changes.
- Under the Cancún Agreements and the Copenhagen Accord, it was internationally agreed to limit the increase in global average temperature change to below 2°C. Scenario setting based around this target along with related changes in rainfall patterns and extreme weather events provides a useful starting point for adaptation planning.

### *6.3.2 Current Australian Government approach*

#### *Mitigation*

- The Australian Government is strongly committed to reducing Australia's emissions, which will create new opportunities for the agriculture industry.
- Abatement from the agriculture sector will be encouraged through the Carbon Farming Initiative (CFI). On 24 March 2011, legislation was introduced to Parliament to establish the CFI. The CFI will provide farmers, forest growers and landholders with opportunities to generate carbon credits in return for greenhouse gas abatement (that is, reduced or avoided emissions and removals) through activities in the land sector. These credits can then be sold in domestic and international markets. Abatement may be achieved by either:
  - reducing or avoiding emissions through, for example, capture and destruction of methane emissions from landfill or livestock manure

  - removing carbon from the atmosphere and storing it in soil or trees by, for example, growing a forest or farming in a way that increases soil carbon.
- Credits would only be issued for additional abatement, which means that credit would not be available for abatement activities that are already common practice. This will not prevent crediting of activities that improve agricultural productivity or have biodiversity and other co-benefits. Many mitigation measures that will be encouraged through the CFI will improve farm efficiency, increase productivity and reduce emissions per unit of production.
- The Australian Government has announced that direct emissions from agriculture will be excluded from coverage under the proposed carbon pricing mechanism. However, due to coverage of other sectors, such as energy, the cost of certain inputs to agriculture may increase.
- If the CFI is linked to the proposed carbon price mechanism, mitigation action in the agricultural sector will have an increasingly important role in helping to achieve Australia's emissions reduction target. Continued innovation and research into emerging abatement activities and technologies within the agricultural sector will ensure a continued supply of offsets.

### *Adaptation*

- The Australian Government recognises the challenges that climate change presents to the food industry. It is addressing them across Australia, on several levels, including through a number of portfolios through investment in programs and initiatives such as, Australia's Farming Future, Caring for our Country, the National Landcare Network and the Western Australian Drought Reform Pilot.
- The Australian Government's Australian Climate Change Science Program is investing in research into regional climate change projections which will provide better information to land managers and decision makers.
- It is the Australian Government's role to provide the framework for climate change action through policy and to facilitate access to services and information provided by the various levels of government. Moreover, while recognising farmers are innovative in responding to challenges, the government will need to provide information and tools to help farmers manage climate risks and adapt to climate change.
- Australia's Farming Future is the Australian Government's climate change initiative for primary industries. It provides funding over four years to help primary producers adapt and respond to climate change (DAFF 2011b). Initiatives include:
  - Climate Change Research Program funds a nationally coordinated package of research projects that help primary producers and food processors adapt to the unavoidable impacts of climate change, capitalise on potential opportunities and promote development of sustainable and resilient production systems.
  - FarmReady aims to boost training opportunities for primary producers and Indigenous land managers, and enable industry to develop strategies to adapt and respond to the impacts of climate change. This includes training in food tourism and agri-tourism from 2011–12.
  - Climate Change Adjustment Program provides advice and assistance to eligible primary producers adversely affected or likely to be, by climate change, including those experiencing hardship caused by drought. Professional advice and training delivered under this program is individually tailored to help farm businesses adjust to climate change and to set goals and develop action plans to improve

their financial circumstances, either within or outside of agriculture. Rural financial counsellors can help eligible farmers develop their action plan.

- Transitional Income Support Program helps farm families in financial difficulty manage the affects of climate change on their farm business, by providing short-term income support. Farmers eligible for such support can access professional advice and training opportunities under the Climate Change Adjustment Program to meet the mutual obligation requirements for income support.
- Community Networks and Capacity Building activities focus on increasing the leadership and representative capacity of target groups (women, young people, Indigenous people and people from culturally and linguistically diverse backgrounds) to strengthen community resilience and primary industry productivity.

## 6.4 Environmental performance of the food supply chain

### *6.4.1 Issues and drivers*

- The food industry is coming under increasing pressure from some consumers to demonstrate environmental performance and to provide evidence that international and national obligations are being met, including ecologically sustainable development. Many food businesses are responding to consumers wanting to know how their food was grown, manufactured, transported and retailed so they can make food consumption choices based on environmental impact.
- Demonstrating environmental performance is progressively becoming a key business strategy to prove social responsibility, increase profitability and longevity and retain and/or gain access to markets.
- Different methods and systems, including government, industry and non-government, are currently used to assess and communicate environmental performance throughout the food supply chain and potentially result in multiple requirements for a business.
- According to the Australian Food and Grocery Council, 76 per cent of their member companies have a formal policy covering the environment, 49 per cent have put environmental management systems in place and 71 per cent employed a full-time environmental manager (Ecker 2010).
- Lack of information and awareness of viable options to assess the relative environmental performance of the food freight sector might hinder future initiatives.
- The amount of food thrown away is a national and global problem. Of most concern to stakeholders is the effect waste food has on generation of greenhouse gas emissions, such as methane and carbon dioxide. However, concerns are also growing about the economic and environmental viability of existing waste food disposal systems, as well as interest in waste food as a resource input to agriculture.

### *6.4.2 Current Australian Government approach*

- The Australian Government engages with the food industry and consumers to facilitate environmental outcomes throughout the food supply chain, through for example, various programs aimed at improving the efficiency of water, energy and other resources.

- The Prime Minister‘s Task Group Report on Energy Efficiency recently made a series of recommendations to help Australia achieve a ‗step change‘ improvement in its energy efficiency, including those relating to improving freight transport efficiency. The government is currently formulating its response to the report‘s recommendations.
- Through Caring for our Country the government is helping farmers and fishers adopt sustainable practices and demonstrate environmental outcomes, including developing reporting frameworks and environmental management systems. To demonstrate the affect of government intervention, national resource condition and uptake of management practices is being monitored, evaluated and reported upon. As well, around 10 per cent of individual project budgets are allocated to monitor, evaluate and report project outcomes.
- The *National Waste Policy: less waste, more resources* agreed by governments in November 2009 aims to: avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal; manage waste as a resource and ensure that waste treatment, disposal, recovery and re use is undertaken in a safe, scientific and environmentally sound manner. This includes addressing food waste, within household and commercial and industrial waste streams, as an opportunity for reduced costs and lower levels of greenhouse gas emissions through the food chain.

### *6.4.3 Questions for consultation*

48. What (if any) contribution could action on food waste make to improving the sustainability of Australian food supply chains? What are the best opportunities to reduce Australia‘s generation and landfill disposal of food? Are these subject to market failures (that is, the private sector does not have commercial incentives to better manage food waste)?

# 7. International trade

International trade is an essential part of global and domestic economic growth and prosperity (Emerson 2011). Open and non-distorted markets:

- Allow international specialisation and gains for countries from producing and exporting goods and services in which they have a comparative advantage, and countries to import goods and services in which they have less comparative advantage to form competitively priced inputs into their economies.
- Encourage productivity growth—based on fewer inputs for more outputs—which is essential for economic growth and a rising standard of living for a country's citizens.

Trade also ensures consumers have choice of product variety, quality and price. This is particularly so during periods when domestic supply is affected by weather or other disruptions, or during counter seasons.

## 7.1 Issues and drivers

- Between 2005 and 2010, Australia's annual agrifood exports were around $25 billion to $30 billion, accounting for approximately 15 to 18 per cent of Australia's annual merchandise exports (DFAT 2010).
- Asia continues to receive between 55 and 60 per cent of Australia's total agrifood exports to the world, and is by far the biggest customer for most of Australia's key agrifood exports. The only exceptions are wine (most goes to the European Union and North America) and live sheep and goats, worth $309 million in 2009–10, (almost all goes to the Middle East) (DFAT 2010).
- With most global population growth and global economic growth forecast to occur in developing countries, those countries can be expected to provide most of the demand growth for Australian agrifood products and exports of agricultural services, including technological expertise, technology and equipment.
- Australia's capacity to remain a net exporter of agricultural commodities and processed food and beverage products depends on continued reform to the domestic economy.
- Australia's ability to produce a significant exportable surplus of food contributes to global food security.
- No country will ever achieve full food self-sufficiency at all times, and it would be expensive in economic and social terms to try to achieve such a state. All countries rely on the mutually beneficial sharing of resources.
- Australia's agrifood export performance is affected by national and international influences. They include productivity growth rates (linked to investment in R&D), domestic climatic conditions, exchange rate movements, international prices, price of domestic and imported inputs into farming production, offshore market confidence in Australia's food production and processing systems, economic conditions in offshore markets, and the global trade system.
- Australia's agrifood imports are currently around $10 billion to $11 billion a year (DAFF 2011a).
- Imported food products need to meet Australia's food safety, biosecurity and consumer laws, including food labelling standards.

- The competitiveness of Australia's agricultural and food sector also depends upon Australia's capacity to encourage other countries to liberalise their economies, both at and beyond the border. Maintaining and expanding Australia's current market access will become increasingly important for the government in coming years. In agriculture and food, competitiveness can be affected by a wide range of policy settings and issues, including the scale and nature of domestic support and export subsidies, import tariffs, non-tariff barriers, investment regimes, distribution systems, and labelling and rules of origin. Factors such as biosecurity and technical barriers to trade can also impact on access to markets for agricultural and food products. These issues are addressed through Australia's trade policy agenda.
- International trade is essential to ensure a continuous supply of competitively priced inputs to food production, such as fuel, fertilisers and plant and equipment.

## 7.2 Current Australian Government approach

- International trade is crucial to Australia's economic prosperity, employment growth and rising living standards. Key policy objectives are maintaining existing access to open markets and liberalising access to other markets.
- Australia's ability to reduce barriers to its exports has been enhanced by its domestic economic reform agenda, which has enabled exporters to better compete in global markets and which strengthen Australia's credibility in trade negotiations.
- Exposing businesses to global competition is at once good trade policy and sound domestic economic policy. Openness to trade keeps the cost of farming inputs low and drives economic reform as Australia's competitors find new ways of reducing their costs and improving the quality of their offerings by innovating, which obliges Australian companies to match and better them.
- The multilateral approach to trade liberalisation offers the most potential trade gains for Australia and for the world. Australia most actively pursues trade liberalisation through negotiations under the WTO. Successfully concluding the Doha Round of WTO negotiations is the Australian Government's highest trade policy priority. For Australia, it offers the greatest opportunity to reduce barriers to trade and increase access to overseas markets across agriculture (and food), industrial products and services.
- Bilateral and regional free trade agreements (FTAs) are also important. The Australian Government recognises that FTAs can support the WTO's multilateral trading system by providing momentum toward completion of the Doha Round.
- FTAs can deliver economic benefits to participating countries more quickly than might be possible through a WTO round. They can also tackle specific issues in more depth and often with a higher level of ambition than is possible in the WTO, as well as being more comprehensive by covering issues such as investment that are not fully addressed in the WTO. Australia seeks to conclude FTAs which are comprehensive, genuinely liberalising and advance Australia's objectives at the multilateral level.
- Australia encourages trade and economic integration through a range of other regional and bilateral trade and economic fora, including contributing to the work of the APEC forum's implementation of the Bogor Goals for regional economic and trade liberalisation and integration. The combination of these efforts—multilateral, regional and bilateral—creates a self-reinforcing network of commitments at a number of levels, where each agreement, or reform, flows into building a more robust and predictable trading environment for Australia.

- To date, Australia has negotiated six FTAs[10] which are currently in force and is negotiating a further nine FTAs/economic partnership agreements.[11] Other FTAs are also being considered. Consultations with business and the community take place as part of negotiating FTAs.
- Once FTAs are concluded, the government highlights to business the range of opportunities arising and the broader long-term growth potential of the commercial relationship with the other parties to the agreement.
- As part of FTA negotiations and bilateral market access discussions, the government in a limited way is helping developing countries with which Australia trades by building their capacity to increase agricultural production or manage quarantine issues. AusAID and other external agencies often fund these activities.
- On 12 April 2011, the Minister for Trade, the Hon. Dr Craig Emerson MP, released the government's trade policy statement, _Trading our way to more jobs and prosperity'. The statement includes the government's response to the Productivity Commission's report on bilateral and regional trade agreements. It sets out five trade policy principles: unilateralism, non-discrimination, separation, transparency, and the indivisibility of trade policy and wider economic reform. These principles inform a set of disciplines which will govern the negotiation and content of Australia's FTAs.
- The policy statement reinforces the Australian Government's commitment to championing ongoing multilateral trade liberalisation as the preferred vehicle for non-discriminatory trade among nations. It also commits the government to negotiating high-quality truly liberalising bilateral and regional trade agreements that support the multilateral system. The statement also refers to Australia's commitment to a science-based quarantine regime that aims to reduce the risk of imported pests and diseases through legitimate measures.
- The Australian Government, directly and through Austrade, also provides a range of market intelligence and other market development support to help agrifood businesses enter overseas markets. Market intelligence services include country-specific information and advice for doing business, information on tariffs and non-tariff barriers applying overseas, trade and economic statistics, commodity forecasts, and advice on trade negotiations and future liberalisation prospects. Broader market development assistance includes developing market strategies, identifying commercial contacts, providing commercial leads and on-ground support including participation in trade missions, promotions and trade exhibitions.
- The new Brand Australia, *Australia Unlimited*, will play an important role in positioning Australia as a preferred global supplier and investment destination, including in the agrifood sector. This overarching promotion will show Australia as an inclusive, engaged and future-focused nation.
- In the agrifood sector, the government's promotion efforts also focus on Australia's leading quarantine and food safety and quality monitoring regime which helps preserve a reputation for high quality production. The government's promotion efforts also emphasise proximity to Asian economies, counter-seasonal production for the northern hemisphere, regional and production diversity, flexibility to respond to market needs as well as Australia's long established agrifood exporting history.
- The Australian Government's overseas network plays a major role in Australia's efforts to remove or reduce barriers to market access, resolve quarantine issues and respond to strategic issues such as global food security.

# Appendix 1: Submission guidelines

## Format of submissions

All submissions whether lodged by email or by post must be accompanied by the attached cover sheet. Submissions should be clearly marked _Submission'. Submissions sent by post must be either typed or written clearly in black ink on A4 paper. For accessibility reasons, please submit submissions in MS Word or RTF format. An additional PDF version may also be submitted.

## Release/publication of submissions

To the extent possible, all submissions will be made available on the national food plan website. All personal details other than your name and the state or territory in which you reside will be removed before publishing. If any information contained in your submission should be treated as confidential, you should clearly identify the sensitive information and provide justification for treating it in-confidence on the submission cover sheet. Submissions received by post will be available in PDF on the national food plan website. The government does not intend to formally respond to specific submissions or issues.

## Privacy

The personal information collected will only be used for the purposes of informing the Australian Government of your views on the issues paper. If a submission contains information relating to a third party individual, the author of the submission will be taken to have obtained the expressed and informed consent of the relevant third party.

## Discretion of Australian Government to refuse to publish material

The Australian Government reserves the right to refuse to publish submissions, or parts of submissions, which contain offensive language, potentially defamatory material or copyright infringing material.

## Conditions of submission

By making a submission, you will be taken to have read, understood and agreed to all conditions set out in this document.

## Lodgement of submissions

Submissions may be lodged:
**Email**: nfpsubs@daff.gov.au
**Post**: National Food Plan Unit
c/- Department of Agriculture, Fisheries and Forestry
GPO Box 858
Canberra ACT 2600
Australia
**Closing date for submissions: 5pm Australian Eastern Standard Time Friday 5 August 2011.**

For further enquiries on submissions please contact the National Food Plan Unit at nationalfoodplan@daff.gov.au

Australian Government

**ISSUES PAPER TO INFORM DEVELOPMENT OF A NATIONAL FOOD PLAN**

**SUBMISSION COVER SHEET**
**(not for publication)**

## Closing date for submissions: 5pm Australian Eastern Standard Time Friday 5 August 2011.

**Please complete and submit this form with your submission to:**
National Food Plan Unit
Department of Agriculture, Fisheries and Forestry
PO Box 858
Canberra City ACT 2601
Or **email: nfpsubs@daff.gov.au**

| | |
|---|---|
| **Organisation or Individual:** | |
| **Principal contact:** | |
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| **Email address:** | |
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| **Suburb/City:** | **State** **Postcode** |
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**NB:** For submissions made by individuals, all personal details other than your name and the state or territory in which you reside will be removed from your submission before it is published on the national food plan website at www.daff.gov.au/nfp

Copyright in submissions resides with the author(s), not with the department.

Submissions will be placed on the department's website, shortly after receipt, unless prior contact has been made concerning material supplied in confidence, or to request a delayed release for a short period of time.

***Please indicate if your submission:***

☐ contains NO material supplied in confidence and can be placed on the national food plan website

☐ contains SOME material supplied in confidence (clearly marked COMMERCIAL IN CONFIDENCE)

# Appendix 2: Questions for consultation

This appendix is a compilation of consultation questions from the issues paper.

The overarching questions (1 to 11) serve as a guide to the areas upon which the government is particularly seeking your views. They are general and align with the scope of the Australian Government's commitment to developing a national food plan.

The remaining questions (12 to 48) are on specific issues explored in more detail in chapters 2 to 6. There are no questions in chapter 1 or 7.

As part of your submission you can choose which questions to answer. Please quote the question numbers when making your submission to aid response compilation.

## Overarching questions

Answer the overarching questions noting that the terms 'food supply' and 'food industry' refer to all parts of the food supply chain—from paddock to plate.

1. What is the most important thing you think a national food plan should try to achieve?

2. What do you think the vision and objectives for a national food plan should be?

3. What do you see as the major risks to Australia's food supply in the coming years and decades? How could they be avoided or managed more effectively?

4. What does food security mean to you? How would this be achieved? How would we know if/when we are food secure?

5. What are the most important benefits that Australian consumers get or should get from our food supply? Why?

6. What two or three actions:
   - by the government sector would most benefit food consumers?
   - by the non-government sector would most benefit food consumers?

7. What do you see as the major opportunities for Australia's food industry in the coming years and decades? How could they be realised?

8. What two or three actions:
   - by the government sector would most benefit businesses that make, distribute and sell food?
   - by the non-government sectors would most benefit businesses that make, distribute and sell food?

9. What specific food policy and regulatory functions within or between governments:
   - overlap?
   - are at cross-purposes?
   - have gaps?

10. Which regulation or regulatory regime poses the greatest burden on the food industry along the food supply chain (production, processing/manufacturing, transport and logistics, wholesale, retail)? What could be done to reduce this burden?

11. What two or three actions:
    - by the government sector would most benefit communities that are highly dependent on food production, processing, distribution or sale?
    - by the non-government sector would most benefit communities that are highly dependent on food production, processing, distribution or sale?

## Chapter 2 Current approach to food policy

12. Do you think that the development and implementation of government policies related to food are adequately coordinated? If not, please explain why and provide examples. What mechanisms could the government consider that might address your concerns?

## Chapter 3 Food security

13. Have all the possible risks to Australia's food security been identified in this paper? If not, what other risks are you aware of?

14. What specific additional actions by:
    - the government sector would most benefit our food security status?
    - the non-government sector would assist in maintaining our food security status?

15. Are current arrangements adequate to ensure continuity of Australia's food supply during significant national emergencies? If not, what further action is needed to prepare for food supply emergencies and improve our ability to manage emergencies if they occur?

16. What specific actions would help improve food security in remote Indigenous and low socioeconomic populations?

## Chapter 4 Diet, nutrition, food safety and the consumer

17. Do you see a role for the food industry in supporting population health and nutrition outcomes? If so, what do you believe that role is and what support might industry need in fulfilling this role?

18. Some food industry sectors have developed tools to demonstrate desirable product attributes to consumers, for example through organic or environmental certification. Do you know of any examples of food supply markets that are not adjusting to evolving consumer demands (that is, potential market failures)? What are they and how could they be encouraged to adjust (that is, not fail)?

19. How do consumer perceptions of food production (across the food supply chain) affect food-related businesses and regional communities? What research has been done on this?

20. Are you confident in the food you eat? If not, what aspects concern you? Do you believe food in Australia is safe? If not, please outline which aspects of food in

Australia you believe are not safe and what needs to be done to ensure all food in Australia is safe?

## Chapter 5 Competitive, productive and efficient food industry

### *Investment*

21. What are the main drivers of, and barriers to, domestic and foreign investment in Australia's food industry?

22. What would encourage more investment in the food industry?

23. For each part of the food industry, where can new or additional investment contribute to a more competitive food industry and to economic growth? Where do gaps currently exist:
    - along the food supply chain?
    - in technology or in skills?
    - in infrastructure to support the food industry?
    - other (please explain)?

Could these be addressed by productive foreign direct investment?

### *Capital, stock and infrastructure*

24. What are the key issues relating to infrastructure that positively or negatively affect the food businesses along the food supply chain? Is there a role for governments in addressing those issues?

25. What barriers to integrating new and emerging technology into Australian infrastructure hinder improvements to the efficiency of the food supply chain?

26. What regulatory conflicts in the passage of food or livestock on Australian infrastructure significantly impair the food supply chain?

### *Innovation*

27. How could the food industry develop more value-adding and product diversification opportunities? What stops businesses from doing this now?

28. What are the main drivers of and barriers to innovation in Australia's food industry as a whole, and also the sub-sectors and with the different business models that comprise the industry?

29. What would encourage more innovation in the food industry?

30. What are the top consumer priorities in product innovation over the next 5, 10 or 20 years?

31. What could government do, consistent with a market-based policy approach, to help the Australian food industry take a long-term strategic view to exploit growth opportunities?

32. How could the food industry make the most of emerging market opportunities, including niche markets such as food tourism? Could the Australian Government play a role in this area?

33. How could the food industry research and development agenda be improved to ensure more involvement from industry and more effective identification of its needs and the needs of consumers?

34. What should a successful, innovative Australian processed food industry look like in the short, medium and longer term?

35. What are the key areas for research and development investment that would produce the necessary productivity gains for the food industry?

36. How could the tension between new technology adoption (such as biotechnology or nanotechnology) and public concerns about possible associated risks best be managed?

37. What could government do to accelerate food and nutrition research and development to successful commercialisation outcomes?

38. What measures or alternative approaches could the government introduce or encourage that would facilitate greater use of public research facilities by small to medium enterprises in the food industry?

### *Labour and skills*

39. Are there labour supply issues with skilled and professional workers in the food industry? If so, what are they, and what causes them? What particular skills or professions are in short supply and why? Is there a role for government in improving the supply of skilled and professional staff?

40. What aspect of workforce development for the food industry should take priority? Why? Possible choices may include (but are not limited to) building an evidence base, initiatives to attract and retain appropriately skilled people, training to upskill existing people, labour mobility, migration.

41. Could the Australian Government's current range of initiatives designed to meet the current and future skills needs of employers be used to develop a skills strategy or plan for the food industry? How?

42. Are you aware of programs to attract and retain new entrants to the field of agriculture working? If yes, how could these programs be improved?

43. What could be done to use growing student interest in environmental issues to meet the skills needs of the food industry? (For example, the decline in supply of agricultural science graduates has corresponded with growth in environmental science graduates—there are crossovers and shared interests for these study pathways).

44. What could food businesses do that would enable them to function effectively with a less abundant supply of labour? Are there any barriers to making these changes?

## Chapter 6 Sustainable food industry

45. What else could governments or non-government groups do to promote economic and social sustainability of food production, processing, or distribution (including resilience to economic or other shocks)?

46. What region-specific issues should be taken into account in a national food plan?

47. Who will be farming in 2030 (and 2050)? What will farmers‘ relationship to the land be (ownership, management, leasing) and what are the implications of this for social sustainability of farming communities?

48. What (if any) contribution could action on food waste make to improving the sustainability of Australian food supply chains? What are the best opportunities to reduce Australia‘s generation and landfill disposal of food? Are these subject to market failures (that is, the private sector does not have commercial incentives to better manage food waste)?

# Appendix 3: Australian Government—overarching economic policy and intervention in the economy

## Overarching approach to economic policy

The Australian Government's overarching approach to economic policy is to facilitate free enterprise by encouraging commerce to occur in a way that is consistent with society's general expectations. This includes providing intangible infrastructure such as broad-based consumer protection and trade practices measures, and fostering a low-risk economic and legal environment in which business can occur. Australia's competition and consumer policy regime has a number of elements, including:

- well-functioning laws to deter and punish anticompetitive conduct and protect consumers
- competitive neutrality applied to significant government businesses
- legislatively backed third party access regimes and free trade agreements
- legislative review
- structural reform of public monopolies, including privatisation
- removal of unjustifiable regulatory restrictions impeding the competitive process.

Commerce and industry are also facilitated through investment in tangible infrastructure such as, roads, rail, harbour facilities and telecommunications.

## Intervention in the economy

A range of natural, social and economic factors influence the Australian economy and its links with the global economy. The government supports policy settings that encourage flexible, resilient and competitive markets, spurring growth, productivity and higher living standards as resources move efficiently within the economy to their highest value use.

A certain amount of government regulation is desirable in a market economy to help address market failures or meet important community objectives. Markets can fail or work imperfectly in some circumstances; for example, in provision of public goods (like food research, quarantine and rural infrastructure), existence of natural monopolies, existence of externalities (like pollution), or where there are a proliferation of information asymmetries (such as in food labelling).

While it can be easy to identify market failures, it is not always as easy to address them without creating other problems or making the original problem worse. As governments are subject to operate under the same constraints and imperfections that contributed to market failure in the first place, there is no guarantee that governments could adequately correct all market failures (DIISR 2011). Policy responses, including regulations, can become redundant over time due to changes in, for example technology, consumer preferences and community values. Government attempts to address market failure could fail to achieve their objective: they could be complex or inconsistent across jurisdictions and impose additional compliance burdens on business.

Similarly, government intervention can be costly. It is important that government carefully scrutinise any proposal to use regulation to address market failures to make sure the costs of

the proposed regulation do not exceed the benefits and thereby reduce the net benefit for and wellbeing of the community.

Government intervention also carries opportunity costs, where funds allocated could have been used in the next best alternative. Faced with budget constraints, governments would be expected to allocate resources to actions that generate the greatest net benefit for the community. The broader social opportunity costs of intervention also need to be considered. For example, the social opportunity cost of a tax could exceed the amount of the tax, causing indirect costs to the economy by changing peoples' incentives to work, consume and invest.

Where food supply chains do not function efficiently, the government could facilitate industry sectors to develop systems to correct such inefficiencies, where it is cost effective. Such measures can benefit both industry and consumers, without adding to the regulatory burden, and generally involve a facilitation, information provision or 'co-regulatory' role. For example, Australian Government supports the development of international food standards to improve outcomes for domestic food safety and public health policies and enhance opportunities for Australian agricultural and food industries, particularly in respect of their trade interests, through the Codex Alimentarius Commission (Codex). Also, Australia's food labelling and associated information delivery measures play an important role in improving the confidence of consumers in making well-informed purchasing decisions, with flow-on benefits to producers.

## Roles of governments in the economy in relation to food

### *The Australian Government and the Constitution*

Under Australia's federal system, the power to govern is divided between the Australian Government and the state and territory governments.

Section 51 of the *Australian Constitution* defines 40 specific areas over which the Commonwealth has power to make laws. Powers of relevance to the food industry include fisheries, quarantine, patents of invention which includes Plant breeder's rights, and broader provisions for trade, external affairs, taxation, railways, industrial relations and corporations. The Australian Government can also make laws for Australia's territories.

### *State, territory and local governments*

The responsibility to make laws on any issue not identified in section 51 of the *Australian Constitution* rests with state governments. This includes a range of matters relevant to food, including food safety, transport, education, health, the environment, and land management. Also local governments provide an increasingly broad range of infrastructure, economic and community services to the community, involving the food sector.

### *Council of Australian Governments*

The Council of Australian Governments (COAG) is the peak intergovernmental forum in Australia. COAG comprises the Prime Minister, state premiers, territory chief ministers and the President of the Australian Local Government Association (ALGA). COAG was established in May 1992 and first met in December of that year. The Prime Minister chairs COAG.

The role of COAG is to initiate, develop and monitor implementation of policy reforms that are of national significance and that require cooperative action by Australian, and state and territory governments.

COAG has led major reforms that have contributed to economic prosperity and improved the living standards of all Australians (COAG 2011).

In February 2011 COAG streamlined its agenda around five themes of strategic importance that lie at the intersection of jurisdictional responsibilities. They are:

- a long-term strategy for economic and social participation
- a national economy driven by Australia‘s competitive advantages
- a more sustainable and livable Australia
- better health services and a more sustainable health system for all Australians
- Closing the Gap on Indigenous disadvantage (COAG 2011).

The new COAG ministerial council system (effective from 1 July 2011) has a number of fora of relevance to a broad national food plan, they are:

- **standing councils**: primary industries, health, regional Australia, environment and water, transport and infrastructure, energy and resources, tertiary education and skills
- **select councils**: climate change, immigration and settlement
- **legislative and governance fora**: food regulation, gene technology, consumer affairs and Murray–Darling Basin.

# Appendix 4: Key reports and inquiries

This appendix lists food-specific or food-related reports and enquiries including:

- Australian Government reviews and inquiries that are specific to the food system
- Australian Government broad policy reviews and inquiries that affect the food system
- Senate inquiries
- House of Representatives inquiries
- Joint Committee inquiries
- state and territory government approaches to food industry policy
- international approaches to food industry policy.

Some of the inquiries are multi-faceted, but for brevity are listed only once. It is provided for guidance; and is a list of key recent reports and inquiries relevant to food policy as outlined in this paper.

## Australian Government food-specific reviews and inquiries

### *Food security*

PMSEIC 2010, *Australia and Food Security in a Changing World*, the Prime Minister's Science, Engineering and Innovation Council, Canberra.

ACCC 2008, *Report of the ACCC inquiry into the competitiveness of retail prices for standard groceries*, Australian Competition and Consumer Commission, Canberra.

### *Competitive, productive, efficient food industry*

Agriculture and Food Policy Reference Group 2006, *Creating Our Future: Agriculture and Food Policy for the Next Generation*, Report to the Minister for Agriculture, Fisheries and Forestry, Department of Agriculture, Fisheries and Forestry, Canberra.

DAFF 2007, *FOODmap: A Comparative Analysis of Australian Food Distribution Channels,* Department of Agriculture, Fisheries and Forestry, Canberra.

DAFF 2004, *Price Determination in the Australian Food Industry,* Department of Agriculture, Fisheries and Forestry, Canberra.

### *Sustainable food industry*

Chesson, J, Morgan, L and Whitworth, B 2006, *Assessing the Environmental Performance of the Food Value Chain: An extension of the Signposts for Australian Agriculture Framework*, National Land and Water Australia Audit, Canberra.

### *Diet, nutrition, food safety and the consumer*

Blewett, N, Goddard, N, Pettigrew, S, Reynolds, C & Yeatman, H 2011, *Labelling Logic—Review of Food Labelling Law and Policy*, Department of Health and Ageing, Canberra.

National Preventative Health Taskforce 2009, *Australia: The Healthiest Country by 2020 – National Preventative Health Strategy – Overview*, Report to the Minister for Health and Ageing, Canberra.

Productivity Commission 2009, *Performance Benchmarking of Australian and New Zealand Business Regulation: Food Safety*, Productivity Commission, Canberra.

## Australian Government broad policy reviews and inquiries

### *Competitive, productive, efficient food industry*

Beale, R, Fairbrother, J, Inglis, A & Trebeck, D 2008, *One Biosecurity: a working partnership,* The Independent Review of Australia's Quarantine and Biosecurity Arrangements Report to the Australian Government, Canberra.

Callinan, I 2008, *Equine influenza: the August 2007 outbreak in Australia*, Report of the Equine Influenza Inquiry, Canberra.

COAG 2008, *National Partnership Agreement to Deliver a Seamless National Economy,* Council of Australian Governments (ongoing).

Henry, K, Harmer, J Piggott, J, Ridout, H & Smith, G. 2010, *Report on Australia's Future Tax System*, Report to the Treasurer, Canberra.

KPMG 2009, *Western Australian Grain Freight Review*, KPMG engaged by Australian Government Department of Infrastructure, Transport, Regional Development and Local Government, Canberra.

Productivity Commission 2011, *Rural Research and Development Corporations*, Productivity Commission, Canberra.

Productivity Commission 2010, *Wheat Export Marketing Arrangements*, Productivity Commission, Canberra.

Productivity Commission 2008a, *Annual Review of Regulatory Burdens on Business: Manufacturing and Distributive Trades*, Productivity Commission, Canberra.

Productivity Commission 2008b, *Review of Australia's Consumer Policy Framework*, Productivity Commission, Canberra.

Productivity Commission 2007a, *Annual Review of Regulatory Burdens on Business: Primary Sector*, Productivity Commission, Canberra.

Productivity Commission 2007b, *Tasmanian Freight Subsidy Arrangements*, Productivity Commission, Canberra.

Productivity Commission 2007c, *Road and Rail Freight Infrastructure Pricing*, Productivity Commission, Canberra.

Productivity Commission 2005a, *Review of Part X of the Trade Practices Act 1974: International Liner Cargo Shipping*, Productivity Commission, Canberra.

Productivity Commission 2005b, *Australian Pigmeat Industry*, Productivity Commission, Canberra.

Productivity Commission 2005c, *Review of National Competition Policy Reforms*, Productivity Commission, Canberra.

Regulation Taskforce (Banks Review) 2006, *Rethinking Regulation: Report of the Taskforce on Reducing Regulatory Burdens on Business*, Report to the Prime Minister and the Treasurer, Canberra.

Review of the National Innovation System (the Cutler Review) 2008, *Venturous Australia—building strength in innovation,* Cutler & Company Pty Ltd, Melbourne.

### *Sustainable food industry*

MDBA 2010, *Guide to the proposed Basin Plan: overview*, Murray–Darling Basin Authority, Canberra.

PMSEIC 2010, *Challenges at the energy–water–carbon intersections*, Prime Minister's Science, Engineering and Innovation Council, Canberra.

### *Diet, nutrition, food safety and the consumer*

NHMRC 2003, *Dietary Guidelines for Australian Adults* and *Dietary Guidelines for Children and Adolescents in Australia* incorporating *the Infant Feeding Guidelines for Health Workers*, National Health and Medical Research Council, Canberra (Note: the guidelines are under review and are to be released by the end 2011).

### *Trade*

DFAT 2011, *Gillard Government Trade Policy Statement: Trading our way to more jobs and prosperity*, Department of Foreign Affairs and Trade, Canberra, http://www.dfat.gov.au/publications/trade/trading-our-way-to-more-jobs-and-prosperity.pdf.

Productivity Commission 2010, *Bilateral and Regional Trade Agreements*, Productivity Commission, Canberra.

Productivity Commission 2008, *Safeguards Inquiry into the Import of Pigmeat*, Productivity Commission, Canberra.

## Senate Committee inquiries

### *Food security*

Impacts of Supermarket Price Decisions on the Dairy Industry (current, final report to be released 1 October 2011) (extended).

The GROCERYchoice Website (concluded 18 November 2009).

### *Competitive, productive, efficient food industry*

Australia's Food Processing and Manufacturing (report by 30 June 2012).

Capacity of Communication Networks and Emergency Warning Systems to Deal with Emergencies and Natural Disasters (current, final report to be released by 2 November 2011).

Foreign Acquisitions Amendment (Agricultural Land) Bill 2010 (concluded 15 June 2011).

Food production in Australia (concluded 23 August 2010).

Biosecurity for Chinese Apples and Australia–US Cherry Trade (concluded 20 July 2010).

National Broadband Network (concluded 17 June 2010).

Milking it for all it's Worth – Competition and Pricing in the Australian Dairy Industry (concluded 13 May 2010).

Rural and Regional Access to Secondary and Tertiary Education Opportunities (concluded 18 December 2009).

Foreign investment by state-owned entities (concluded 17 September 2009).

Aspects of Agribusiness Managed Investment Schemes (concluded 7 September 2009).

Pricing and Supply Arrangements in the Australian and Global Fertiliser Market (20 August 2009).

Interstate Road Transport Charge Amendment (No. 2) Bill 2008, and Road Charges Legislation Repeal and Amendment Bill 2008 (concluded 21 November 2008).

Workforce Challenges in the Transport Industry (concluded 9 August 2007).

Administration of Biosecurity Australia – Revised Draft Import Risk Assessment for Apples from New Zealand (concluded 17 March 2005).

Administration of Biosecurity Australia – Revised Draft Import Risk Analysis for Bananas from the Philippines (concluded 17 March 2005).

Rural Water Resource Usage (concluded 12 August 2004).

Biosecurity Australia's Import Risk Analysis for Pig Meat (concluded 13 May 2004).

Bridging the Skills Divide (concluded 6 November 2003).

Wheat Marketing Amendments Bill 2002 (concluded 18 June 2003).

Dairy Industry Service Reform Bill 2003 and the Primary Industries (Excise) Levies Amendment (Dairy) Bill 2003 (concluded 27 March 2003).

Small Business Employment (concluded 6 February 2003).

Australian Meat Industry Consultative Structure and Quota Allocations Second Report: Existing Government Advisory Structures in the Australia Meat Industry (concluded 12 December 2002).

Introduction of Quota Management Controls on Australian Beef Exports to the United States (concluded 26 June 2002).

### *Sustainable food industry*

Management of the Murray–Darling Basin (current, final report to be released 30 November 2011).

Sustainable Management by the Commonwealth of Water Resources (concluded 7 October 2010).

Climate Change and the Australian Agricultural Sector (concluded 4 December 2008)

Senate Rural and Regional Affairs and Transport Legislation Committee Report on the National Animal Welfare Bill 2005 (concluded 22 June 2006).

### *Diet, nutrition, food safety and the consumer*

Food Standards Australia New Zealand Amendment Bill 2010 (concluded 15 June 2010).

Food Standards Amendment (Truth in Labelling Laws) Bill 2009 (concluded 26 November 2009).

Food Standards Amendment (Truth in Labelling—Palm Oil) Bill 2010 (concluded 26 August 2009).

Food Standards Amendment (Truth in Labelling—Genetically Modified Material) Bill 2010 (current, final report to be released 16 June 2011).

### *Trade*

Possible Impacts and Consequences for Public Health, Trade and Agriculture of the Government's Decision to Relax Import Restrictions on Beef (concluded 23 June 2010).

The Free Trade Agreement between Australia and the United States of America (concluded 5 August 2004).

Proposed Importation of Fresh Apple Fruit from New Zealand (concluded 11 March 2004).

## House of Representatives inquiries

### *Competitive, productive, efficient food industry*

Role and Potential of the National Broadband Network (current, final report to be released by August 2011).

Australia's Trade and Investment Relations with Asia, the Pacific and Latin America (current, re-referred on 13 December 2010).

Fuel and Energy (concluded 30 August 2010).

Raising the Level of Productivity Growth in the Australian Economy (concluded 28 April 2010).

Australian Manufacturing: Today and Tomorrow Inquiry into the state of Australia's manufactured export and import competing base now and beyond the resources boom (concluded 13 August 2007).

The Great Freight Task: Is Australia's Transport Network up to the Challenge? (concluded 13 August 2007).

Rural Skills Training and Research (concluded 26 February 2007).

Future Water Supplies for Australia's Rural Industries and Communities (concluded 24 May 2004).

### *Sustainable food industry*

Impact of the Murray–Darling Basin Plan in Regional Australia (concluded 2 June 2011).

### *Diet, nutrition, food safety and the consumer*

Protecting Children from Junk Food Advertising (Broadcasting Amendment) Bill 2008 (concluded 2 December 2008).

## Joint Committee inquiries

### *Competitive, productive, efficient food industry*

Enterprising Australia—planning, preparing and profiting from trade and investment (concluded 21 October 2010).

To Make a Contribution: Review of Skilled Migration (concluded 29 March 2004).

### *Trade*

Expanding Australia's trade and investment relationship with the countries of Central Europe (concluded 15 August 2003).

## State and territory government approaches to food industry policy

Victorian Government 2010, *Ready for tomorrow: A blueprint for regional and rural Victoria.*

Western Australian Government 2009, *The State Government Priority for Agriculture and Food in Western Australia*, WA Department of Agriculture and Food, Perth.

Queensland Government 2010, Smart *Industry Policy and Decision Making Policy*, Department of Tourism, Regional Development and Industry, Brisbane.

Queensland Government 2007, *Processed Food Industry Action Plan*, Department of Tourism, Regional Development and Industry, Brisbane.

Queensland Government 2010, *Protecting Queensland's strategic cropping land: A policy framework*, prepared by Vegetation Management and Land Planning, Department of Environment and Resource Management, Brisbane.

South Australian Government 2010, *South Australian Food Strategy 2010–15: Beyond the expectations of consumers around the globe*, Government of South Australia, Adelaide.

## International approaches to food industry policy

Defra (UK) 2010, *Food 2030*, United Kingdom Government Department for Environment, Food and Rural Affairs, London.

The Government Office for Science (UK) 2011, *Foresight—The Future of Food and Farming*, the Government Office for Science, London.

Agriculture and Agri-Food Canada 2008, *Growing Forward Framework*, A Federal–Provincial–Territorial Framework Agreement on Agriculture, Agri-Food and Agri-Based Products Policy, Ottawa.

# Appendix 5: Background on Australia's food chain and population

## Australia's population and demographic trends

Changes in Australia's population numbers and the structure and composition of its population directly influence the demand for and supply of food. Demographic change will affect both dietary requirements and food preferences, while also affecting the labour required to produce and supply food. Changes in demography also influence food supply and demand through its effects on broader market participation and economic activity.

Australia's population has grown over the past 40 years at an average annual rate of 1.4 per cent per annum, taking Australia's total population to approximately 22.4 million in 2010. Current projections suggest Australia's population will continue to grow over time, but at slower rates than in the past.

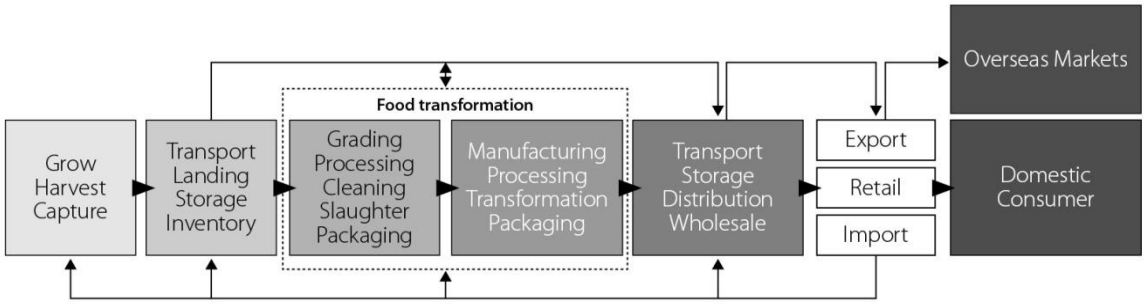
Ethnicity is also an important determinant of demand for food in Australia with preferences for commodities like milk, rice and meat differing widely across ethnic groups. For example, while bread is a daily food item for Australian's across all demographic groups, rice exhibits significant variability. Given that rice is a staple food for many migrant communities, it is not surprising that households whose heads were born in Australia spend half as much on rice than do households where the head was born overseas. Similarly, pork is a traditional staple for some Asian communities and represents a larger share of their total food budget than is the case for the overall Australian population (Ulubasoglu et al. 2010).

Seven million people have migrated to Australia since 1945. One in four Australians were born overseas. Fourty-four per cent of Australia's population were either born overseas or have a parent who was and 4 million speak a language other than English (DIC 2011). International migration has been a significant influence in expanding the dietary preferences and food experiences in many parts of the world. This influence is richly demonstrated by the many styles of food now commonplace in Australia.

## Australia's food supply chain

The food chain in Australia consists of production of agricultural and fisheries food materials and products, food and beverage processing and manufacturing, distribution, wholesaling and food and beverage retailing, food services, and trade (both exports and imports) (figure 7).

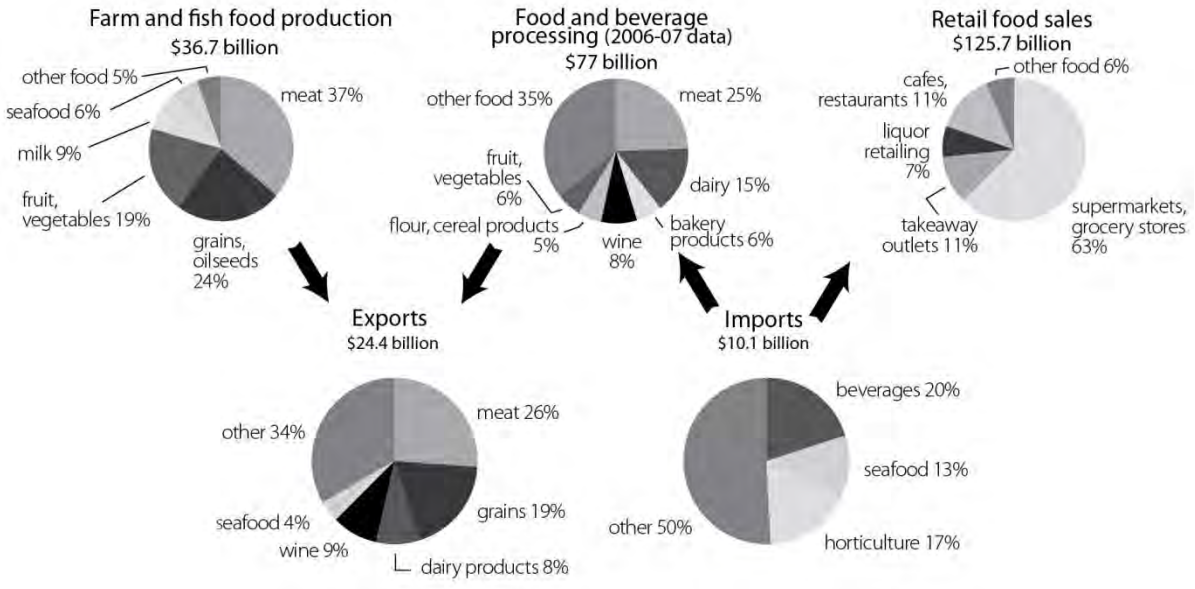
**Figure 7: Australia's food supply chain**




*Note*: This figure is an indicative food chain only and may not fully represent all of Australia's many and varied food chains. Non-food Inedible business inputs such as fertiliser, fuel and equipment are not represented. The heavy arrows show the domestic chain, the top line shows the export chain and the bottom lines show the import chain (though in practice these may overlap). The top flow line shows that a specific food supply chain might not include all stages, depending, for example, on whether the end product is fresh or processed, or whether the consumer is a business or an individual. For example, wheat could be produced for export in raw form, sold to a bakery as flour or sold to a bread manufacturer that makes bread for a supermarket.

Figure 8 presents a breakdown of the value chain for food in Australia in 2009–10 and additional facts and figures on each sector.

**Figure 8: Value chain for food in Australia, 2009–10**




Source: DAFF 2011, *Australian Food Statistics 2009-10*, Department of Agriculture, Fisheries and Forestry, Canberra.

### *Production of agricultural and fisheries food products*

The total gross value of Australia's farm and fisheries production (excluding non-food farm and fisheries production, such as fibres and pearls) in 2009–10 was $36.7 billion. The major components were meat and livestock products (primarily milk) ($16.7 billion), grains and oilseeds ($8.8 billion), fruit and vegetables ($6.9 billion) and seafood ($2.2 billion) (DAFF 2011a).

The composition of agricultural production of food has changed over the past two decades: the volume of grain, meat and wine grape production has risen while milk production has declined since reaching its peak in 2001–02. Milk is still more than 40 per cent above its early 1990s level. Over the past decade, the gross value of Australian fisheries production has remained relatively stable (ABARE 2010). In addition, over the past 10 years drought and poor seasonal conditions have adversely affected agriculture production in Australia. However, current improved seasonal conditions in eastern Australia are expected to result in improved prospects for agriculture production of food over the short term at least.

### *Food processing and manufacturing*

For most food producers, processing or value adding of commodities is could provide greater opportunities in the Australian market and other high income markets as food and beverage suppliers endeavour to satisfy consumer demand for more convenient foods that are readily consumable and well presented. For example, fresh food commodities such as fruit and vegetables may be packaged or marketed, especially for high-value markets. Beef is increasingly marketed to domestic and export customers with specific quality assurances.

Food and beverage processing and manufacturing covers a number of product groups, including meat, dairy, seafood, fruit and vegetables, edible oils, sugar, confectionery and beverages, and flour milling and baking.

The food and beverage sector is Australia's second largest manufacturing industry with a workforce in 2009–10 of 226 750 people. In 2006–07 (most recent available official data), it provided around 19 per cent of industry value adding and 21 per cent of total national sales and services income. The food and beverage sector consistently accounts for at least 18 per cent of employment in the Australian manufacturing sector (DAFF 2011a).

### *Food distribution and wholesaling*

Food distribution is an important component of the food industry. Because most food is produced away from population centres and most undergoes various forms of transformation before being made available for sale to consumers, the availability of a safe, reliable and efficient food delivery system is vital for efficient functioning of a national food system.

Wholesale markets provide the bulk of Australia's fruit and vegetable sales for the retail sector. Dedicated wholesale markets operate in the mainland state capitals throughout Australia. Large retailers, processors and exporters also directly source fruit and vegetables from growers and grower/packer businesses.

Around 42 per cent of the nation's non-bulk road transport is moving food and groceries daily. This does not include transport of live animals or bulk transport of, for example, bulk grains, coal and other ores, and fuel (DAFF 2009; Pers. comm. with transport industry).

### *Retail*

Australia's total consumer expenditure on food and liquor in 2009–10 was around $125.7 billion, an increase of 6 per cent over the previous financial year. Supermarket and

grocery expenditure (excluding non-food grocery items) was $75 billion, or 64 per cent of food retailing expenditure in 2009–10. Other categories were liquor retailing ($8.6 billion) and other food retailing ($7.9 billion) (DAFF 2011a).

Like global food markets, supermarkets in Australia are increasingly focusing on developing private labels (_house‘ or _home‘ brands) to increase margins and maintain competitive advantage. The Australian grocery market is supplied by supermarkets (just under 60 per cent), independent grocers (just under 20 per cent) and other speciality retailers (McKinna 2011). Other marketing alternatives for fresh produce include central markets, a growing network of community and farmers‘ markets, the rapidly evolving food services sector, specialty delicatessens, greengrocers, butchers and seafood outlets.

The difference between price paid for raw commodities and retail price for many foods is a matter of some ongoing community concern. The level of this difference partly reflects rising cost of inputs and services (including transport, storage, handling, distribution and retailing) and incorporation of additional attributes (such as packaging, presentation and nutritional information) in the final product, in response to consumer demands (DAFF 2005).

### *Consumption*

Processed and ready-to-eat foods now form a large part of the Australian diet. Work and family patterns are changing, and consumers are seeking more convenient, better quality, healthier, fresher and more wholesome foods, with minimal storage and preparation/cooking times. Food safety, waste, other environmental issues and ethical motivations have caused some consumers to be more concerned about food handling along the whole food chain. These trends have provided a new set of challenges and opportunities for the food industry. There are more products on the market from which to choose and there is greater competition within the food industry to meet consumer demand.

Good nutrition is an important contributor to health and wellbeing. The National Health and Medical Research Council‘s dietary guidelines encourage Australians to:

- enjoy a wide variety of nutritious foods including plenty of vegetables, fruits and wholegrain cereals
- choose lean meat and low-fat dairy where possible
- limit saturated fat and moderate total fat intake
- choose foods low in salt and added sugars
- drink plenty of water (NHMRC 2003).

The findings of the 2007 *Australian National Children's Nutrition and Physical Activity Survey* found that while most children eat a variety of foods and meet the recommended intakes for energy, protein and most vitamins, children aged nine years and over were less likely to eat the recommended amounts of fruit and dairy foods and were eating more than the recommended amounts of sugar, saturated fat and salt (CSIRO 2007).

### *Food service*

Growing consumer affluence coupled with time constraints mean an increasing number of meals are being purchased from restaurants, cafes and take-away food stores. The food service industry includes restaurants, take-away food outlets, quick service restaurants (such as KFC and McDonalds), pubs and clubs and sporting and entertainment venues. It also includes institutional food service providers, such as hospitals and aged care facilities, schools, the military, mining camps and travel catering.

Food service expenditure was about one-third of total food and liquor retail expenditure in 2009–10. Cafés and restaurants accounted for 13 per cent at $15 billion and take-away food services 10 per cent at $12 billion in 2009–10 (DAFF 2011a). Institutional food service expenditure is estimated at 7 per cent of food and liquor expenditure (McKinna 2011).

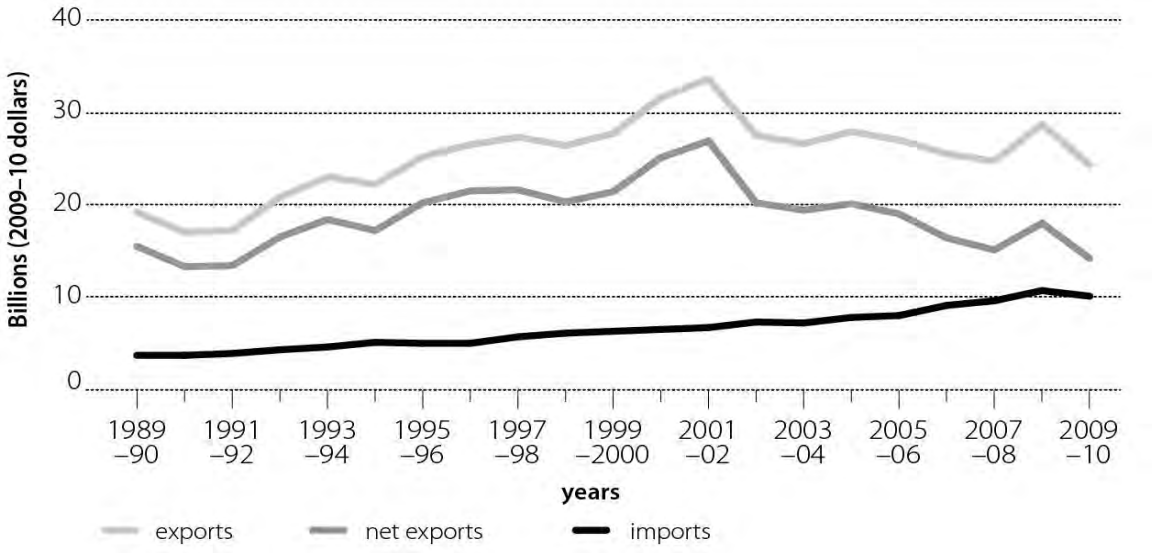
### *Food exports*

Australia exports around $25 to $30 billion worth of food each year and more than half the volume of the food it produces (DAFF 2011a). In 2009–10, exports were valued at $24.4 billion. The bulk of Australian exports are minimally transformed products. Although Australia is a relatively small producer globally, for many commodities representing less than 5 per cent of global production, it is a significant exporter on a world scale for food products such as bulk wheat, sugar, barley, milk powder, bulk cheese, pulses, beef, sheep meat, live sheep and cattle, and alcoholic beverages (mainly wine).

With the strong export orientation of agricultural production in Australia, the total value of food exports continues to exceed total food imports. In 2009–10, for example, Australia had a food export surplus of $14.2 billion. Australia is expected to remain a net exporter of food, in particular of minimally transformed commodity products, in the foreseeable future despite the recent rise in the value of food imports.

The value of food exports fluctuates with variations in world prices, changes in the exchange rate of the Australian dollar and seasonal production conditions in Australia. For example in 2009–10 the value of food exports declined by $3.7 billion, or 13 per cent compared with 2008–09 (figure 9) due to lower world grain export prices and appreciation of the Australian dollar.

**Figure 9: Trends in food trade, 1989–90 to 2009–10**




*Source*: DAFF 2011, *Australian Food Statistics 2009–10*, Department of Agriculture, Fisheries and Forestry, Canberra.

The major destinations for Australian food exports in 2009–10 were Japan (17 per cent), the United States (10 per cent), Indonesia (8 per cent), the Republic of Korea (7 per cent), and Chinese Taipei and New Zealand (both 6 per cent).

## *Food imports*

The value of Australian food imports in 2009–10 was around $10.1 billion. Highly processed foods accounted for more than 93 per cent of these imports by value, and included beverages, canned and processed fruit and vegetable–fruit juice, and vegetable oils, as well as bakery, confectionary and other elaborately transformed foods (DAFF 2011a; ISISWorld 2010).

Imports make up around 30 per cent of processed and 4 per cent of fresh fruit and vegetable consumption in Australia. The value of Australia‘s food imports in real terms has increased at an average rate of 5.3 per cent a year over the past two decades. Major contributors to this growth have been higher imports of processed seafood, processed fruit and vegetables, bakery products, confectionery, beer and wine. The major sources of imported of food to Australia in 2009–10 were New Zealand (19 per cent), the United States (9 per cent), China (7 per cent), Thailand (7 per cent) and Ireland (6 per cent).

Food is imported for various reasons. Consumers have greater access to a wider range of fruit and vegetables throughout the year when supplemented by imports. Imports may be cheaper to produce overseas than in Australia or certain products may only be available through international trade. The cost of production, including labour, distance to export markets, and the value of the Australian dollar, influence the level of imports. Some Australian food commodities are exported for processing before being imported as transformed product.

In 2009–10, Australia‘s food imports were valued at an average of $452 per person (DAFF 2011a). The value of Australia‘s food imports, on a per person basis, was considerably less than for Canada and Japan, and was similar to the Republic of Korea and Malaysia.

# Glossary

## Abbreviations

| | |
|---|---|
| ABARES | Australian Bureau of Agricultural and Resource Economics and Sciences |
| ABS | Australian Bureau of Statistics |
| ACIAR | Australian Centre for International Agricultural Research |
| ANZFRMC | Australia and New Zealand Food Regulation Ministerial Council<br>Under the new COAG council system announced on 13 February 2011 ANZFRMC will become one of five COAG Legislative and Governance Fora and from 1 July 2011 will be known as the COAG Legislative and Governance Forum on Food Regulation |
| APEC | Asia–Pacific Economic Cooperation |
| APVMA | Australian Pesticides and Veterinary Medicines Authority |
| AusAID | Australian Agency for International Development |
| Austrade | Australian Trade Commission |
| CFI | Carbon Farming Initiative |
| CFS | Committee on World Food Security |
| CGIAR | Consultative Group on International Agricultural Research |
| CIF | Cost, insurance and freight |
| COAG | Council of Australian Governments |
| Codex | Codex Alimentarius Commission |
| CSIRO | Commonwealth Scientific and Industrial Research Organization |
| DAFF | Department of Agriculture, Fisheries and Forestry |
| DFAT | Department of Foreign Affairs and Trade |
| DIISR | Department of Innovation, Industry, Science and Research |
| EST | Eastern Standard Time |
| FAO | Food and Agriculture Organization of the United Nations |
| FDI | Foreign direct investment |
| FIRB | Foreign Investment Review Board |
| FOB | Free on Board |
| FSANZ | Food Standards Australia New Zealand |
| FTA | Free Trade Agreement |
| IA | Infrastructure Australia |
| IMF | International Monetary Fund |
| MP | Member of Parliament |
| NPHP | National Public Health Partnership |
| OECD | Organisation for Economic Co-operation and Development |
| PIMC | Primary Industries Ministerial Council<br>Under the new COAG council system announced on 13 February 2011, PIMC will be known as the Primary Industries Standing Council from 1 July 2011 |
| PMSEIC | Prime Minister's Science, Engineering and Innovation Council |
| R&D | research and development |
| RD&E | research, development and extension |
| RDCs | Rural Research and Development Corporations |

| | |
|---|---|
| SME | small to medium enterprises |
| SNE NP | National Partnership Agreement to Deliver a Seamless National Economy |
| SPS | Sanitary and Phytosanitary |
| TBT | Technical Barriers to Trade |
| UK | United Kingdom |
| UN | United Nations |
| US | United States of America |
| WHO | World Health Organization |
| WTO | World Trade Organization |

## Key definitions

| | |
|---|---|
| Biosecurity | The management of risks to Australia's economy, environment, and community, of pests and diseases entering, emerging, establishing or spreading in Australia. |
| Business regulation | Any measure or intervention that seeks to change the behaviour of business. |
| Capital | Any form of wealth employed or capable of being employed in the production of more wealth (Macquarie Dictionary Online 2011). For example, buildings, equipment and machinery as well as private and public infrastructure. |
| Competitive | In reference to markets, in which no participant has market power. Participants act as if they cannot affect prices. |
| Consumer | A person who uses up a commodity; a purchaser of goods or services, a customer (Oxford English Dictionary Online 2011). |
| Drivers | Forces of change. Can be positive or negative, affecting food supply and demand. For example, population growth, natural resource constraints. |
| Efficient | Effective in the use of energy or resources (Macquarie Dictionary Online 2011). |
| Food | Any means any substance, whether processed, semi-processed or raw, which is intended for human consumption, and includes drink, chewing gum and any substance which has been used in the manufacture, preparation or treatment of "food" but does not include cosmetics or tobacco or substances used only as drugs (Codex Alimentarius Commission 2010). |
| Food supply chain | consists of the production of agricultural and fisheries food materials and products, food and beverage processing and manufacturing, distribution, wholesaling and food and beverage retailing, food services, international trade (both exports and imports) and consumption. Figure 8 provides an illustration of the food supply chain. |
| Food security | Physical, social and economic access to sufficient, safe, and nutritious food to meet the dietary needs and food preferences for an active and healthy life (FAO 2002). |
| Infrastructure | The roads, railways, schools, and other capital equipment which comprise such an underlying system within a country or region (Macquarie Dictionary Online 2011). |
| Innovation | Doing new things and doing existing things in new ways. Innovation involves generating, diffusing and applying knowledge (DIISR 2009). |
| International trade | The importing and exporting of goods and services between countries. |
| Investment | The conversion of money or circulating capital into some species of property from which an income or profit is expected to be derived in the ordinary course of trade or business (Oxford English Dictionary Online 2011). |
| Market economy | An economy which is subject to and determined by free competition (Oxford English Dictionary Online 2011). |
| Overweight and obesity | Abnormal or excessive fat accumulation that may impair health (WHO 2011). |
| Overweight | A Body Mass Index greater than or equal to 25. |

| | |
|---|---|
| Obesity | A Body Mass Index greater than or equal to 30.<br>Body Mass Index = a person's weight in kilograms divided by the square of their height in metres ($kg/m^2$). |
| Policy | A course or line of action adopted and pursued by a government (Macquarie Dictionary Online 2011). |
| Productivity | A measure of total output relative to the total inputs used. |
| Regulation | Business regulation is any measure or intervention that seeks to change the behaviour of business. |
| Safe food | Food not likely to cause physical harm to a person who might later consume it. |
| Sustainability | Is concerned with allowing for the wellbeing of every generation to be at least as high as that of preceding generations and includes economic, social and environmental issues, some of which are tangible and quantifiable, and others that are not. |

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# Endnotes

[1] The FAO estimated in 2009 that the number of people suffering chronic hunger had exceeded 1 billion, due to the combined effects of the 2007–08 global food price spike and the subsequent global financial and economic crisis. In 2010, it revised this estimate down to 925 million, but noted that this did not take into account the effects of higher grains prices which developed from mid 2010, see www.fao.org/news/story/en/item/45210/icode/.

[2] The Consultative Group on International Agricultural Research (CGIAR) system is the global network of 16 internationally funded agricultural research centres, with all but one of these located in developing countries (see www.cgiar.org). Australia has been a member of CGIAR since 1973, and contributes to its funding through the Australian Centre for International Agricultural Research (ACIAR; see www.aciar.gov.au).

[3] Pers. Comm. Trusted Information Sharing Network Food and Grocery Sector Group

[4] The standard basket of food used to undertake these surveys consisted mainly of foods required to support and maintain health consistent with national dietary recommendations.

[5] Greenfield investment relates to investing in new production or processing/manufacturing facilities; brownfield investment relates to extending or refurbishing an existing operation.

[6] Rural R&D includes non-food commodities such as fibre and forestry

[7] Includes awards for beverage and tobacco manufacturing; tobacco manufacturing is out of scope for this paper.

[8] The draft intergovernmental agreement was endorsed by primary industries and natural resource management ministers on 23 April 2010. It is now being considered out-of-session by COAG.

[9] Here the food industry more broadly includes agriculture; aquaculture; fishing, hunting and trapping; food product manufacturing; grocery, liquor and tobacco product wholesaling; and food retailing.

[10] Existing Free Trade Agreements are Australia–New Zealand Closer Economic Relations Trade Agreement (entered into force 1 January 1983), Singapore–Australia FTA (1 July 2003), Australia–United States FTA (1 January 2005), Thailand–Australia FTA (1 January 2005), Australia–Chile FTA (6 March 2009), and ASEAN–Australia–New Zealand FTA (1 January 2010).

[11] Negotiations underway are FTA bilateral negotiations between Australia and China, Gulf Cooperation Council, Japan, Korea and Malaysia; economic partnership agreements Indonesia–Australia Comprehensive Economic Partnership Agreement, Pacific Agreement on Closer Economic Relations and Trans-Pacific Partnership Agreement. In May 2011, Australia and India agreed to launch FTA negotiations.