

Strategic Analysis Paper

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Food Waste in Australia

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Key Points

- Food waste is the deliberate wastage of food fit for human consumption, generated at the latest stage in the supply chain.
- Australia wastes \$8 billion worth of food per year.
- There is a pressing need for quantitative evidence that consistently encompasses all aspects of food waste in Australia.
- According to the definition of food security, a large proportion of Australia's population appears to be food insecure.
- Estimates indicate that the Australian population will double in the next 40 years; so too will the demand for food. Sustainable agricultural policies are vital in tackling food waste and food insecurity and ensuring the future of Australian agriculture.

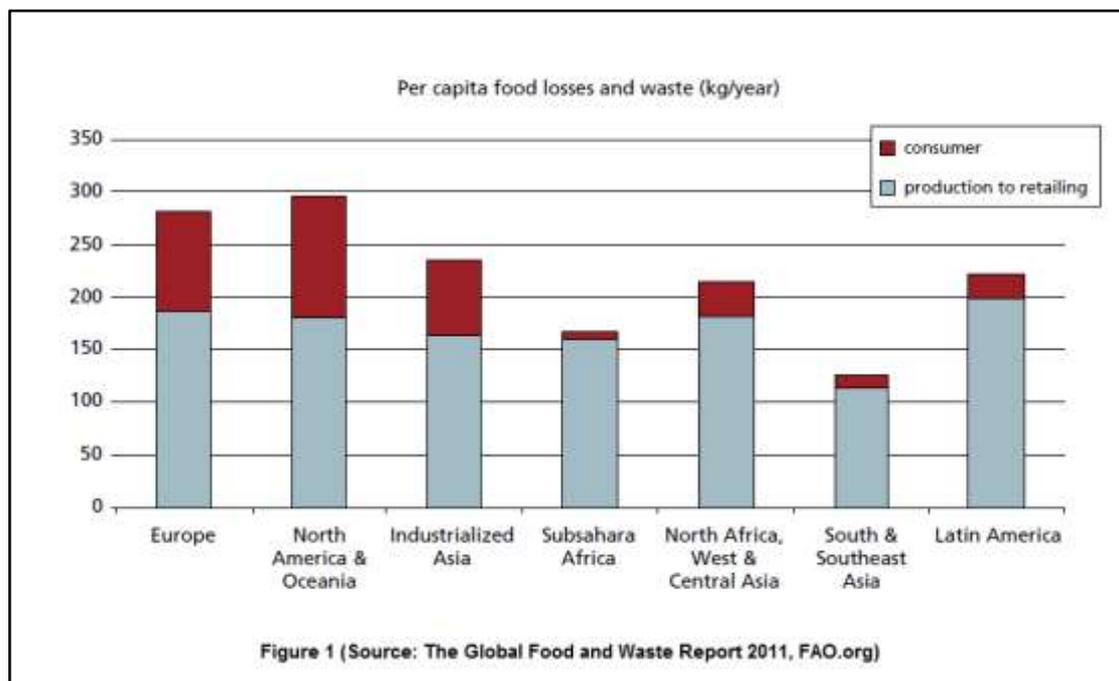
Summary

Food wastage is an international phenomenon. It affects, although in different ways, both the developed and developing worlds. In Australia, figures show that food wastage is growing considerably and has the potential to threaten food security and the environment. This paper analyses the extent of food wastage in Australia and its causes and effects. Finally, it formulates policy prescriptions to achieve a consistent and sustainable food waste management regime.

Analysis

Globally, estimates indicate that one-third of the food produced for human consumption is wasted. Food waste in industrialised countries, such as Australia, amounts to approximately 670 million tonnes per year, with an equivalent economic cost of US\$750 billion. Saving even one-quarter of the food currently wasted, would allow us to feed 870 million food-insecure people around the globe.

Food waste and loss occur at virtually all levels of the Food Supply Chain (FSC). There are, however, significant differences in waste distribution levels between low-income and middle to high-income countries. As Figure 1 shows, food waste in middle- to high-income countries occurs at a much higher rate once it has reached the consumer. In low income countries, on the other hand, food waste at the consumer level is marginal, while losses occurring in the production to retailing stages of the FSC are relatively level with middle- to high-income countries.



Food Waste in Australia

Food wastage in Australia is significant. Estimates indicate that, on average, Australia produces enough fresh food to feed 60 million people daily, but wastes 7.5 million tonnes of food fit for human consumption every year. The economic cost of that waste has [risen](#) from \$5.2 billion in 2009 to \$8 billion in 2014. In Australia food wastage occurs predominately at the consumer and retail levels, with each household wasting an estimated \$616 worth of food annually.

Implications of Food Waste

Food waste has significant implications that directly impact society on a number of levels. It has direct impacts on the environment and contributes to climate change; wastes economic capital and the finite resources used in food production; and, finally, it increases global food insecurity.

Environmental and climatic impact

When food is disposed of and sent to landfill to decompose, it emits *methane gas*, which traps heat in the atmosphere at a rate 25 times higher than carbon dioxide (CO₂)¹. Published estimates indicate that 14 per cent of the world's CO₂ emissions are caused by food waste. Food left to rot in landfills also impacts land biodiversity around the landfill, polluting waterways and groundwater. Food production involves a considerable use of finite resources, such as water, land, energy and capital. According to the CSIRO, water usage for food production in Australia is particularly high and unwisely managed: to produce a kilogram of meat we use 50,000 litres of water; 1,500 litres per kilogram for rice production; and 500 litres for every kilogram of potatoes. Water used for irrigation to produce the food we waste annually would be enough to meet the water needs of 9 billion people².

Food Insecurity

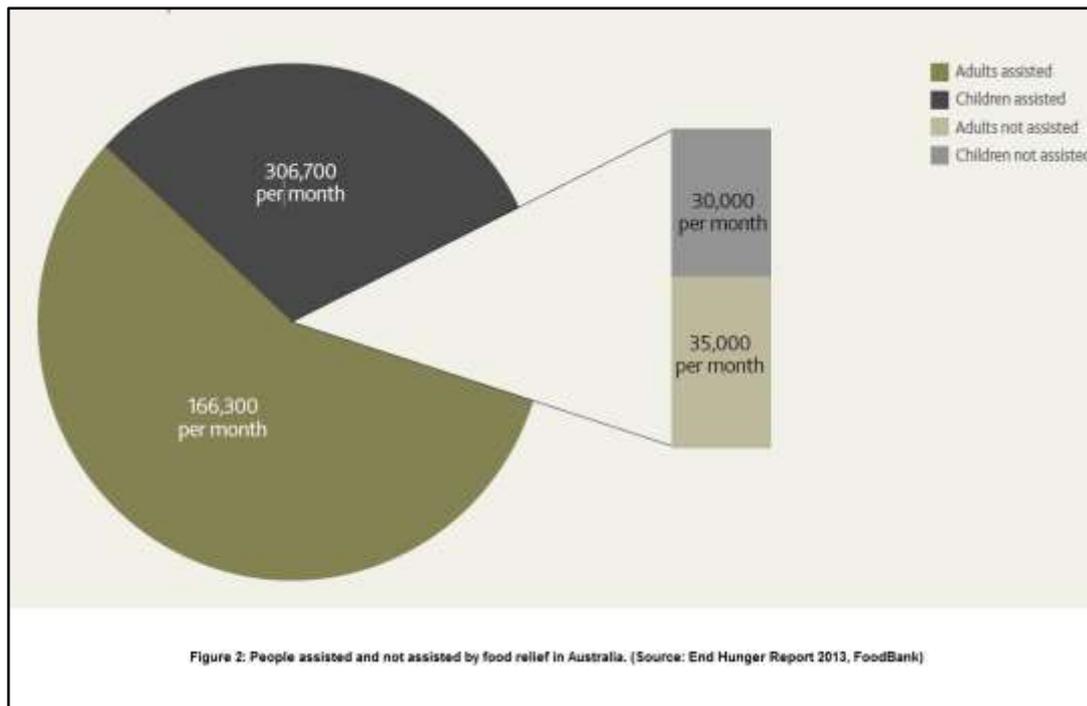
Food insecurity is commonly considered an issue that only affects developing countries and least developed economies. In industrialised states it is concealed by their economic wealth. It thus becomes difficult to acknowledge something that only affects a small proportion of a population. Although Australia is a fully industrialised and wealthy nation, it cannot be classified as a consistently food-secure country. According to the definition provided by the World Food Summit 1996, *"Food security exists when all people, at all times, have physical access and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."*

Food production and accessibility are indeed two separate things. In Australia, according to a recent report by Food Bank, there are 65,000 people in need of food relief who go unassisted each month³, as shown in Table 2. Other food relief agencies, such as SecondBite and OzHarvest, claim they are struggling to meet the ever growing food demand. The social groups most affected by food insecurity, appear to be the unemployed, Indigenous populations, single parents and low income households. Among the main driving factors in food insecurity are a lack of financial resources; access to affordable nutritious food; and limited food access due to geographical isolation.

¹ <http://www.lovefoodhatewaste.nsw.gov.au/love-food/environmental-impacts.aspx>

² Un Report, Resilient people, Resilient planet: a future worth choosing, 2012, p. 36.

³ Foodbank Australia, End Hunger Report 2013, p. 4.



Food Donations

With food waste in Australia’s commercial sector contributing approximately 21.5 per cent⁴ of food to the municipal waste, finding a workable method of re-using food surpluses in the human food chain, would significantly enhance food security in Australia. In Perth, Food Rescue has [reportedly](#) been able to save 500,000 kg of fresh food to be distributed to food-insecure people. The organisation delivers food to charities that feed 5,500 people a day.

Donating food to charitable organisations is legal, practical and safe. Businesses and donors are protected by the law in all States. In Western Australia, for instance, the Volunteers and Food and Other Donors (Protection from Liability) Act 2002, sets regulations for food donors. It also protects donors from incurring civil liability for anything that results from consumption of the food donated, provided that the food was donated for a charitable purpose and was fit for human consumption at the time of donation.

Policy Recommendation

The vast majority of food waste in Australia reportedly occurs at the later stages of the FSC. Consequently, encouraging significant changes in consumer behaviour represents the first critical step towards tackling food wastage.

Opting for smaller packaging can result in a reduction in the quantity wasted. Other options, such as providing wet bins in households and waste composting tools, have already been widely implemented in the UK with encouraging [results](#). Food waste reduction must be conceived as a shared responsibility: citizens must be equipped with the tools to reduce, recycle and dispose of waste responsibly; institutions, on the other hand, should independently endorse policies that will reduce waste at the retail and consumer stages.

⁴ <http://www.foodalliance.org.au/article/food-waste/>

To reach a zero waste economy, a bottom up approach is essential, complemented by adaptable policies to meet the constantly changing nature of the issue. The UK Government has implemented a simple but effective strategy of waste hierarchy, which combines: prevention, reuse and recycling of waste, followed by recovery and disposal strategies. By cooperating with all the actors' involved in society, businesses and consumers alike, they have managed to establish a path towards shared responsibility.

Mutual agreements, however, seldom suffice if not complemented by a set body of law, which regulates and dictates policies. It is vital that regulations are implemented to efficiently guide and manage retail businesses and commercial producers in their efforts to reduce and manage food waste. Such practices will allow more effective monitoring of those who do not comply with the regulations; this, in turn, will actively reduce food waste. Mandatory collection of food waste data and the compulsory provision and inspection of food bins, are good examples of the implementation of such policies.

Local governments must also play an important role in shaping food waste policies. The Leichhardt Council in Sydney has provided its residents with dedicated food bins and biodegradable bin bags, which are collected weekly. The food waste collected is then converted into a combustible gas for green electricity [production](#)⁵. The Massachusetts Department of Environmental Protection (MassDEP) recently announced a waste disposal ban, effective from 1 October 2014, for businesses and institutions that produce at least one tonne of waste per week. MassDEP has established an [assistance programme](#), free of charge, to help businesses prepare for the ban and develop cost-effective food waste diversion programmes. The plans of both the Leichhardt Council and MassDEP provide innovative examples of what can be done with food waste and could lay the foundation for wider national policies.

Conclusion

Australia will face important challenges in the coming decades. Available data clearly shows that Australia must prepare itself to face a considerable rise in food demand. In this situation, responding to food insecurity and scarcity of resources through production increases and biofuel production will prove unsustainable in the long run.

Australia wastes 7.5 million tonnes of food per year and cannot afford to continue doing so. There is a need for consistent national data to help with the development of common waste collection definitions and guidelines. The complexity of the issue is such that consumers, retailers and the State must work together, enhance their waste accountability and maximise their efforts to implement practices that reduce food waste. The effort to reduce food waste is an environmental imperative; it offers an important sustainable alternative to maximising food production and could help in maintaining food security, both domestically and internationally.

⁵ <http://www.smh.com.au/national/our-food-waste-is-our-wealth-20140310-34gyx.html>

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