

Bridge of Support: The Economic Impact of Foodbank WA

Paul Koshy

John Phillimore

Curtin University of Technology

Abstract

This paper quantifies the impact of Foodbank WA, a private not-for-profit organisation that provides a logistical and distributive interface—the bridge of support—between food producers with surplus or non-retailable foodstuff stocks and community agencies which access food products in large volumes. In 2007 this involved the collection and distribution of 1.5 million kilograms of food across Western Australia (WA) including regional centres. As a result these foodstuffs were not sent to landfill, at considerable savings to producers, and community agencies have been able to reduce the cost of sourcing food for their clients. The scale of Foodbank WA's operations means that each week approximately 8,300 households (or 1% of all households in WA) are provided with at least part of their food supply. The total economic impact of Foodbank WA's operations is AUD\$18.4 million in a calendar year.

Introduction

Food production and distribution is a critical function in any society. Food should be produced on a sustainable basis and distributed fairly enough to ensure security of food supply for all groups within a population. This issue has widespread ramifications for Australian society. Barker and Cook (2005) estimate that *food insecurity*—the inability to access or purchase sufficient quantities of appropriate food—affects close to five percent of all Australian households. In the Western Australian (WA) context, this is equal to 41,500 households. Reduced access to food has implications for such households and for society as a whole and is linked to a range of social problems including poor private and public health outcomes, increased school truancy and rising crime rates.

At the same time, between 10 to 25 percent of all food produced is either spoiled or wasted in the developed world (Lundqvist, de Fraiture & Molden, 2008). The environmental cost of disposing of such waste at all levels of production and consumption is considerable, making suitable foodstuffs sourced from this disposal stage (mainly at the manufacturing stage) an economically viable option.

The study examines one response in WA to both these key issues. The organisation Foodbank WA provides logistical and distribution services—a *bridge of support*—to

concerned food manufacturers and the community sector. This paper provides an economic assessment of the impact of Foodbank WA on the broader WA community.

The paper is comprised of five sections. Following this introduction is a background section on the history and current operations of Foodbank WA. Next is a section describing the methodology and key research question in assessing the impact of Foodbank WA. Section four outlines the assessment of individual benefits of Foodbank WA's operations, while section five provides an overall assessment of the organisation's benefits followed by concluding comments.

Background

Foodbank WA has been in operation since 1994 as an autonomous part of the national organisation Foodbank Australia. It is based on a concept which originated in the United States in the 1960s and gained federal funding in the late 1970s as *America's Second Harvest* network (Brown *et al.*, 2007) whereby key infrastructure was developed for the sourcing and transportation of food for the community sector.

Foodbank WA manages the infrastructure for the collection and the provision of foodstuffs to vulnerable parts of a community in conjunction with other organisations such as food producers, government, community sector organisations and volunteers.

WA was thought to require a foodbank for two reasons. First, a business study in the early 1990s estimated AUD\$10-\$14 million of consumable food products were being sent to landfill in WA (Foodbank, 2007). Second, the existing community support structure did not have the expertise or capacity to handle the potentially large volume of food donations possible if food was diverted to the community sector. Any improvement in the food distribution capacity of the welfare sector contributes to food security in vulnerable populations—the needy and unemployed, underprivileged families, pensioners and large sections of the indigenous population.

Foodbank WA was conceived in response to the above challenges. The Lotteries Commission sponsored the business plan that generated the concept of not-for profit, non-denominational and with a whole-of-community focus. The agency was officially formed with support and representation on the Board of Directors from peak agencies in the community sector, the food industry, the legal profession, the printing and public relations industry, the mining company Rio Tinto, the Lotteries Commission of WA and the Rotary Club of WA.

In its first year of operation Foodbank WA collected and distributed 500,000 kilograms of food. This quickly rose to over one million kilograms a year as Foodbank WA expanded its distribution system through additions to existing infrastructure and increases in the level of foodstuffs being sourced from industry. Foodbank was also successful in establishing a nutrition education program, Foodsense, for the staff of community support agencies as well as the Train the Trainer program which received funding from the Health Department of WA.

Foodbank began planning an expansion of its distribution operations into the regions of WA in 2000. In the eight years since, Foodbank distribution points have been

established in Albany, Geraldton, Peel and, more recently, in Bunbury. Foodbank WA raised \$2.5 million in 2001 and the relocation of Foodbank WA to the new Foodbank Centre in Division Street, Welshpool, occurred in November 2002. This centre covers around 3,000 square metres and contains chillers, one large freezer (with a storage capacity of over 200 pallets) and packing equipment. Foodbank WA also operates and maintains a fleet of vehicles, including temperature controlled ones, from this centre and the regional distribution points. These vehicles are a key element of what is now one of the largest food distribution networks in the state¹, capable of dealing with massive single donations of over 200 pallets and facilitating similarly large demands for the transport and storage of food. At present, around 1.5 million kilograms of food are distributed each year through community support agencies. This includes the distribution of over 10,000 kilograms per week of food through its four regional branches.

Foodbank WA has also established the School Breakfast Program (SBP) as a state wide community-initiated program to target priority population groups defined under the *Western Australian Health Promotion Strategic Framework 2007–2011* specifically targeted at schools in neighbourhoods in the lower ranked deciles of the socio-economic status index for WA. A separate analysis has been undertaken for the SBP (Koshy & Phillimore, 2007), but will not be reported in this paper.

The Economic Impact of Foodbank WA: A Methodology

As Foodbank WA is not a purely commercial organisation, its operations cannot be judged in terms of revenue or profit. Likewise, it is not a public agency and therefore cannot be assessed according to established benchmarks in the public sector, limited as these often are in any case.

Foodbank functions as a bridge of support between the WA food industry and local community support agencies dispensing food relief parcels and items to WA families in need. Foodbank undertakes the critical collection and logistical tasks associated with food distribution on behalf of a wide number of agencies across WA. These activities have a number of quantifiable benefits for WA.

The purpose of this paper is to provide an independent assessment of the impact Foodbank WA has on the broader WA community in its role as a bridge of support (excluding its other impacts through the SBP). This includes the presentation of Foodbank's operational data and an economic assessment of key aspects of its operations which typically go uncosted and therefore unvalued or under-valued by society.

In this study the current operations of Foodbank WA are assessed as opposed to reporting on a whole-of-life basis. This allows for an assessment of the impact of the agency in view of its present level of support from the community. The research addresses the principal question:

If Foodbank WA didn't exist, what would be the impact on the community in terms of the loss of the benefits attributable to Foodbank?

Where possible, the identified benefits from Foodbank WA's operations are assessed in economic terms. Essentially, given the voluntary nature of Foodbank WA, it is likely that many of the organisation's costs will be low or next to zero. For instance, the provision of foodstuffs destined for landfill is likely to be of zero cost to contributors (indeed, they may benefit from reduced collection costs), while a similar argument holds for transport costs where distribution occurs as part of an existing cycle. Nevertheless, these represent genuine contributions to society. It may be relatively *costless* for manufacturers and suppliers of foodstuffs to either send product to landfill or Foodbank WA, but society as a whole clearly values one outcome over the other. Economic impact analysis can be used to determine the value of Foodbank WA on this basis. These costs will be assessed in terms of the role of Foodbank WA in creating a so-called bridge of support for the community sector.

The Economic (and Social) Impact of Foodbank WA

Answering the research question involves an economic assessment of the net benefit of Foodbank WA. This is the sum of individual benefits attributable to Foodbank's operations. These include: the reduction in the level of foodstuffs sent to landfill; reductions in logistical and delivery costs; reductions in the cost of foodstuffs for support agencies; and support for volunteers and disabled workers. This section details the quantitative assessment of these benefits. In addition, several key benefits, notably the benefits attributable to increasing the supply of food to disadvantaged sections of WA society and related benefits to the community (for example, reduced crime rates), are discussed in the above context but are not quantified.

Reduction in landfill and environmental costs

Since its inception, Foodbank WA has rescued over 15 million kilograms of food from landfill—equivalent to 150,000 cubic metres. At present the average annual distribution of food is equal to around 1.5 million kilograms, equivalent to 1,500 tonnes saved from landfill every year, of which 1,120 tonnes is *wet* or *putrescible* waste and 380 tonnes is liquid waste.² Every tonne of waste that is diverted from landfill represents a benefit to society through the elimination of the cost of this type of disposal.

The direct cost of landfill is readily obtainable. The WA state government has recently implemented a decision to raise the cost per tonne of putrescible waste going to landfill from \$3 to \$9 by 2010–11 beginning in October 2006 when the rate increased to \$4 per tonne and more recently to \$6 per tonne (Waste Management Board, 2007a).

However, there is good reason to believe that prices being charged for putrescible landfill dramatically underestimate its true economic cost (including social and environmental factors). The Waste Management Board (WA) (2007b) notes that prices for landfill in WA are still very low by Australian standards, with prices in the eastern states being in excess of \$30 per tonne. Even at \$30 per tonne, there is still widespread evidence that landfill levies do not meet the cost of landfill operations. A report prepared by Maunsell Australia (2003) for the Environmental Protection Authority (EPA) of South Australia states that a landfill operation with an annual intake of 10,000 tonnes—large by

WA standards—would imply an average total cost of \$55 per tonne for landfill alone without taking into account collection and transport costs (Maunsell Australia, 2003). Other work for the EPA suggests that costs can in fact greatly exceed this estimate for smaller sites, particularly those dealing with putrescible waste. For instance, a recent presentation by SITA Environmental Solutions reports that the most recent landfill costing model of EPA (SA) implies an average cost per tonne of \$83 for a facility taking in 10,000 tonnes per annum (SITA Environmental Solutions, 2006).

In addition to the above disposal costs of putrescible waste, it should be noted that the above price estimates exclude other costs of disposal such as transport costs, which are known to be significant. However, these costs are also removed through Foodbank's collection system. SITA Environmental Solutions estimates that the transport cost for waste collection and disposal for landfill is around \$17 per tonne after allowing for the probable size of trucks and route lengths in a regional operation (SITA Environmental Solutions, 2006).

Separate cost estimates exist for liquid foodstuff waste products. Cost recovery for this type of waste is more accurately reflected in the reported cost of disposal, as all waste must often be chemically treated. This is the case in WA where all liquid waste must be treated before disposal and the cost of this is currently \$350 per tonne (Waste Management Board [WA], 2007a).

Given the systematic underpricing of landfill in WA, the best starting point for costing landfill disposal is Maunsell Australia's (2003) estimate of \$83 per tonne for putrescible waste. In addition, donators also avoid the costs associated with the sorting and transport of waste goods, estimated at around \$17 per tonne. This implies a total cost of disposal of putrescible waste through landfill of around \$100 per tonne. As Foodbank WA saves 1,120 tonnes of dry foodstuffs (and eliminates the disposal cost of \$100/tonne) and 380 tonnes of liquid foodstuffs (at a disposal cost of \$350/tonne) from landfill each year, this suggests a benefit to WA of around \$245,000 in 2007.

Reduction in logistical and delivery costs for contributing businesses and community agencies

Foodbank WA provides a central deposit from which community support agencies can withdraw around 75 percent of their food needs. This offers the community support agencies access to food items that, due to their limited means, they could not source in the necessary volumes through the wholesale and retail brackets of the market.

It is quite difficult to calculate the complete logistics cost savings from Foodbank WA acting as distributor, but several comments can be made. In the first instance, agencies relying on Foodbank WA would have to provide their own transport even if they were dealing with retailers or were sourcing food donations. However, by directly accessing food from a warehouse distributor, they reduce the costs associated with moving food from the wholesale to retail sectors. This translates into a direct saving to agencies—a saving in the time spent sourcing foodstuffs.

The aggregate impact of Foodbank WA in this respect can be estimated for its dealings with over 600 agencies across the state. If one volunteer at each of these 600 agencies saves themselves one hour a month or 12 hours a year (a very conservative estimate) due to the existence of Foodbank WA, then this implies an annual saving of 7,200 hours each year (600 agencies x 12 hours). A simple calculation to estimate the contribution of volunteers is to cost their time at the 2007 minimum wage for casual employees of \$16.91 per hour (Australian Fair Pay Commission, 2007). This, of course, does not reflect the true social value of volunteer work, but it does set the minimum value society would place on such work were it paid. In this instance, assuming the 7,200 hours are saved at the minimum wage of \$16.91, this would be equal to almost \$121,752 for a given calendar year.

Reduction in costs of food for community agencies

Generally speaking, Foodbank WA benefits from strong community support and the positive outcomes of large-scale operations negotiating with and providing logistical support for food donations from industry. This results in financial savings to the community sector which would not be readily available to stand-alone operations.

Foodbank WA's operation as a distributor of donated foodstuffs to the community sector reduces the cost of food to community agencies. Internal projections from Foodbank WA bear this out. They indicate that its annual food distributions total 1.5 million kilograms and have a supermarket retail value of approximately \$18 million per annum. The cost of these distributions to community agencies is less than five percent of this retail value (\$807,000).

Some indication of the savings available to the community sector as a result of participating in Foodbank WA can be seen through data collected from Saint Andrew's Anglican Church. Saint Andrew's assists approximately 40 families a month in its Parish through the provision of food parcels. This requires that it spend around \$250 per month of which \$150 is spent at Foodbank WA. The Food Hamper Coordinator at Saint Andrew's notes that sourcing all its food from retail outlets would cost the Parish at least \$1,800 per month. By way of direct comparison, Saint Andrew's provides a record of the cost of some typical food expenditures by them at Foodbank and at a major retail supermarket (Table 1) (Saint Andrew's Anglican Church, 2007).

These figures indicate that Foodbank WA agency members enjoy substantially reduced prices for food commodities with estimated discount being over 85 percent with the exception of rice (29%) and fresh produce such as carrots (65%). This example is, however, indicative only and a conservative estimate of the cost of acquiring food from Foodbank WA with anecdotal evidence suggesting that the average saving is closer to 95 percent.

The existence of Foodbank is dependent on achieving a break-even status and this is done by levying a handling fee per kg on food withdrawn and by seeking corporate sponsorship. For all Foodbank WA throughput in 2007, this handling fee has been estimated at \$807,000 (or 53.8c/kg). This reduces the total cost across all Foodbank WA

sales by a substantial 95.5 percent, which is equivalent to \$17.193 million on the estimated retail value of \$18 million.

Table 1: Community Agency Food Sourcing: Cost of a Typical Purchase at Foodbank WA and a Retail Supermarket (2007)

ITEM	FOODBANK WA	SUPERMARKET	SAVING	% SAVING
<i>12 loaves of bread</i>	\$5.81	\$31.56	\$25.75	82%
<i>2.5doz eggs</i>	\$1.46	\$8.00	\$6.54	82%
<i>24 tubs butter</i>	\$7.46	\$64.56	\$57.10	88%
<i>10kg rice</i>	\$9.64	\$13.50	\$3.86	29%
<i>45 frozen meat pies</i>	\$8.81	\$44.90	\$36.09	80%
<i>12 jars jam</i>	\$5.74	\$42.60	\$36.86	87%
<i>36 packets 2 min noodles in a cup</i>	\$1.39	\$43.20	\$41.81	97%
<i>15kg potatoes</i>	\$6.75	\$40.20	\$33.45	83%
<i>5kg carrots</i>	\$2.25	\$6.40	\$4.15	65%
<i>24 packets biscuits</i>	\$5.40	\$57.84	\$52.44	91%
<i>4 packet cake mixes</i>	\$1.99	\$17.52	\$15.53	89%
<i>Totals</i>	<i>\$56.70</i>	<i>\$370.28</i>	<i>\$313.58</i>	<i>85%</i>

Source: Original table.

Increase in the volume of food collected with foodbank WA's infrastructure

Based on the reported anecdotal evidence and Foodbank WA's own estimates, the primary alternative to Foodbank WA for community sector agencies is to purchase food products direct from WA retailers and, in some cases, manufacturers and wholesalers. This is a particularly expensive and complex task especially at the community level of engagement.

Allowing for additional costs such as management costs and the opportunity cost associated with organising food purchases, Foodbank WA substantially reduces the total cost of sourcing food in the community sector. Where food procurement budgets are fixed, this implies a reduction in cost of around 80 percent where the trade-off between budget reduction and increased supply to individuals and families in need depends on each agency's perception of local food security needs. For instance, in the example of Saint Andrew's Anglican Church (2007):

(The) ... price comparison shows a weekly saving of over \$300 by supporting Foodbank. If we were to purchase the same amount of food at supermarket prices we would need a monthly budget of approximately \$1,800. Without Foodbank, we would have to severely limit the number of families we assist to approximately 2 per week instead of the current average of 10. We are extremely grateful to the sponsors, staff and volunteers at Foodbank for enabling us to reach out to so many needy families and we hope to see the organisation continue to grow and develop.

The implications for WA can be seen by comparing the scale of Foodbank WA's operations to the savings in Saint Andrew's \$1,800 monthly retail budget. If a \$1,800

monthly budget can assist 10 families a week, then around \$21,600 is required to provide this level of assistance for an entire year at around \$2,160 per family. Given the total estimated retail value of Foodbank WA's sales at \$18 million, this implies that, on average, Foodbank WA enables the community sector to provide food to around 8,333 families on a weekly basis over the course of a typical year.³

Given that Saint Andrew's can assist 10 rather than 2 families a week through Foodbank, it is likely that Foodbank WA allows the overall community sector to reach five times as many families than is possible without such support. This implies that an additional 6,667 families (80% of 8,333) in WA are receiving weekly support due to Foodbank WA compared with what would otherwise be the case.

The value of this increase in food supply is captured in the aforementioned estimate of the increase in food available to communities. It also captures, in part, the nutritional value of this food as valued at commercial prices and available because of the operations of Foodbank WA. This estimate needs to be considered in view of Foodbank WA's expanding regional operations which are the only viable means of distributing food in certain areas given the remoteness and small scale of retail outlets.

Health benefits to the WA community

The broad scope of Foodbank WA's operation is to ensure food security for vulnerable sections of the WA community. Food security is defined as an outcome where all residents in a community obtain a safe, culturally acceptable and nutritionally adequate diet in a way which ensures sustainability and maximises community self-reliance. Food insecurity has significant implications for society. In the US context, Vozoris and Tarasuk (2003) find that 'household food insufficiency was significantly associated with poorer health status across multiple dimensions of health—physical, mental and social' (p. 124). Barker and Cook (2005) provide an assessment of the level of concern about food security in Australia. They note that (p. 21):

At present, food security is an issue for approximately 5% of the Australian population ... This figure, however, obscures pockets of food insecurity where the prevalence is much higher, such as amongst the unemployed (23%), single-parent households (23%), people from the second lowest income quartile (20%), people in rental housing (20%) and young people (15%).

Estimate of Foodbank WA's activities suggests that it reaches around 8,300 households a week or roughly one percent of WA's estimated 800,800 households (ABS, 2006). This implies that in a given week, assuming WA has a similar incidence of food insecurity to that of the rest of Australia (i.e., 5%), Foodbank WA will cater to one-fifth of the estimated households in WA who face food security issues.⁴

It is very difficult, however, to provide further estimates of the dollar value of this benefit given an absence of data on the true nature of food insecurity in WA and a profile of customers sourcing food from community agencies who are supported by Foodbank WA. Though, as noted above, some of this value is captured in our assessment of the commercial value of food available under Foodbank WA's distribution scheme. This

represents a conservative estimate of this impact because, in acute cases, the provision of food is likely to be of considerable importance relative to other circumstances.

Community benefits

Aside from health benefits, there are quite widespread social benefits which flow from Foodbank WA's involvement in the community. For instance, there is strong anecdotal evidence from the police suggesting that up to 25 percent of break-ins occur as a result of people being forced to steal food or money for food. The experience of Foodbank WA suggests that the presence of a foodbank working in conjunction with a school or community support agency to provide food results in a general decline in the number of incidents of stealing and civil disobedience. For instance, in Yalgoo, food withdrawn from Foodbank was used to provide school breakfasts and after-school activities at which local children were fed. The result was a reduction in crime of 90 per cent in Yalgoo (Koshy & Phillimore, 2007). This is an example of how Foodbank WA operations can bring together various community support agencies where the combined effort creates better effective outcomes for the community across a broad spectrum of activities.

Support for volunteers

Foodbank WA enjoys the support of around 105 volunteers. The majority of these work for two days a week, averaging five hours of work a day (between 9am and 2.30pm with half an hour for lunch). Their duties are predominantly associated with the operations of the Foodbank warehouse and centre in Welshpool. As noted earlier, the contribution of volunteers can be conservatively costed at the minimum wage for casual employees of \$16.91 per hour (Australian Fair Pay Commission, 2007). In this instance, assuming each of the 105 employees work 450 hours a year then, at the minimum wage of \$16.91, this would be equal to almost \$799,000.

It should be noted that for the majority of volunteers, Foodbank WA acts as a gateway to some form of paid employment and, in some cases, further employment in an organisation external to Foodbank WA. Foodbank WA is quite often a volunteer's 'family' and allows them to interact with other people and work at their own 'standards and pace'. For this reason, it is difficult to estimate or indeed over-estimate the importance of Foodbank WA in the lives of its volunteers or in terms of the contribution they make to the organisation.

Opportunities for workers with disabilities

Foodbank WA is extensively involved in supporting employment options (both paid and unpaid) for people with disabilities. It has an ongoing association with the Rocky Bay Employment Service to enable people with disabilities placed from the service to achieve their potential. This has culminated in five people with profound physical disabilities being employed on a permanent part-time basis for the past decade, which has consequently served as a successful model of engagement for other companies offering employment to people with disabilities. This program of support has resulted in further extensions of

cooperation and support to people with acquired brain injuries for whom part-time employment at Foodbank WA has eventually led to them gaining full-time work in other areas.

In addition to its support for adults with disabilities, Foodbank WA also cooperates with five local schools operating special education units in assisting children with learning difficulties. Some of the outcomes from this cooperation have gone beyond the expectations of both parents and carers.

There are few community organisations with the scope for undertaking these tasks. Part of Foodbank WA's contribution can be captured by assessing the value of its provision of employment to its part-time disabled staff. Assuming each of the five employees work 1000 hours a year then, conservatively, using the minimum wage of \$16.91 an hour (Australian Fair Pay Commission, 2007), this would be equal to around \$84,550.

Benefits to the community and volunteer sectors

As Foodbank WA services over 600 community support agencies in WA, it has positive impacts on the community sector through other critical pathways. First, it benefits community agencies primarily through its activities in providing food products for their charity programs. Foodbank WA operates at a sufficiently large scale throughout WA to ensure that the effectiveness of other agencies is maximised. In other words, Foodbank WA acts as a *force multiplier* in the community sector, working behind the scenes to ensure that the resources of the entire sector are used more efficiently. Second, Foodbank WA provides critical representation for the entire community sector before government. One state example is Foodbank's cooperation with the Health Department in identifying potential sections of the community which would benefit most from a state government nutritional education program. Third, Foodbank's success in establishing a distribution program throughout WA makes the task of other community agencies easier. Better nutritional outcomes lead to a reduction in problems commonly associated with poor nutrition and food security issues such as school truancy, juvenile delinquency, minor and major crime problems, and reduced educational outcomes.

Benefits attributable to the achievement of corporate social responsibility goals

Foodbank WA has an extensive network of corporate contributors, both in terms of final produce and financial support. This network extends to 1,800 individuals and organisations which receive the Foodbank Bulletin three times a year.

The nature of Foodbank WA's operations encourages corporate social responsibility (CSR) because it enables organisations to make in-kind contributions which flow from their central concern of running a business. Support for Foodbank WA and the raft of charities and community sector organisations it supports becomes a much more intuitive decision for business managers in this context.

For instance, the Burswood International Complex over-produces soup each day and diverts the resulting supply to Foodbank WA. This is around 9,125 litres per year. To date,

over \$200,000 worth of soup has been donated (Foodbank WA, 2007). Foodbank WA also allows the corporate sector to encourage charitable responses from their staff and customers. Examples include the Lions and Rotary Clubs Rice Bowl Collection, which has yielded 51,000 kilograms of rice, and Curtin University of Technology’s collection of over 69,000 cans of baked beans during its attempt on the world record for the longest unbroken line of cans (Koshy & Phillimore, 2007). In these two key ways, Foodbank WA enables corporations to fulfil their CSR obligations.

The Total Economic (and Social) Impact of Foodbank WA

Over its 13 years of existence, Foodbank WA has been highly successful in developing a food distribution operation across WA. This paper assesses the economic impact of this operation for 2007, focusing primarily on its main distribution activities of Foodbank WA, the bridge of support.

On the basis of the quantified benefits, it can be seen that the economic impact of Foodbank WA’s main operations in 2007 (excluding the School Breakfast Program) are approximately \$18.4 million. These are outlined above and summarised in Table 2.

The first is easily measurable and represents the economic benefits of diverting foodstuffs from landfill to Foodbank WA. This includes savings of around \$245,000 in actual landfill costs and the value to society from having access to this food. Essentially, this is the value to community organisations of being able to access food at reduced cost—equal to \$17,193,000—and the reduction in time spent by these agencies in sourcing this food (\$121,752).

Table 2: Total Economic (and Social) Impact of Foodbank WA

ITEM	\$
Savings from landfill	245,000
Reductions in logistical costs to agencies (volunteers’ time)	121,752
Reductions in cost of food for community agencies	17,193,000
Increase in food distributed with foodbank WA	*Costing included in (3)
Support for volunteers	799,000
Support for disabled workers	84,550
Total economic impact of Foodbank WA operations	18,443,302

Source: Original table.

The second benefit is derived from Foodbank WA’s operations and their impact in terms of the benefits flowing through the organisation’s support for volunteer (a benefit equal to \$799,000) and disabled staff (\$84,550). Finally, it should be noted that there are widespread social benefits from improved food security throughout the WA community with approximately 8,333 families a week being able to source food from an agency supplied by Foodbank WA.

This is conservatively captured as part of the item *reduction in cost of food to community agencies*, where additional food equivalent to this value is purchased and provided to individuals and families in need. However, this estimate only partially shows the increased

benefits from an escalation in food security as a result of Foodbank WA as individuals and families in need are often likely to accrue benefits from the supply of this food which exceed those reflected by average prices for the WA community as a whole. It is the qualification around this third set of benefits which ensures that the above estimates should be regarded as conservative.

As a voluntary organisation, the contribution of Foodbank WA is easily overlooked. However, it makes a substantial contribution to the wellbeing of people in WA. Its other contributions are, essentially, economic and environmental (reduction in landfill costs). Foodbank WA provides a benefit to the wider community, not only in terms of the direct costs of avoiding landfill but also to the extent that the recycling of food products is in line with community expectations and values. This is not a small consideration given the volume of foodstuffs involved.

References

- Australian Bureau of Statistics (ABS) (2006) *Domestic Use of Water and Energy, WA, October 2006, Catalogue No. 4652.5*. Available: at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4652.5Explanatory%20Notes1Oct%202006?OpenDocument>.
- Australian Fair Pay Commission (2007) *Index: Federal Minimum Wage*. Available at: www.workplaceauthority.gov.au/graphics.asp?showdoc=/PayAndConditions/PayAndConditionsIndex.asp#federal.
- Barker, T. and Cook, K. (2005) 'From a social crisis to a sustainable problem': A case study of the Yarrawonga Foodbank. *Just Policy*, 36 (June) pp 21–7.
- Brown, L., Shepard, D., Martin, T. and Orwat, J. (2007) *The Economic Cost of Domestic Hunger: Estimated Annual Burden to the United States*. Analysis commissioned by the Sodexo Foundation in partnership with the Public Welfare Foundation and Spunk Fund, Sodexo Foundation.
- Foodbank WA (2007) Correspondence with authors, 21 August.
- Koshy, P. and Phillimore, J. (2007) An economic and social impact assessment of Foodbank WA. Report prepared for Foodbank WA.
- Lundqvist, J., de Fraiture, C. and Molden, D. (2008) From field to fork - Curbing losses and wastage in the food chain, SIWI Policy Brief, Stockholm International Water Institute (SIWI), Stockholm. Available at: www.siwi.org/documents/Resources/Policy_Briefs/PB_From_Filed_to_Fork_2008.pdf.
- Maunsell Australia (2003) Alternatives to landfill - Cost structures and related issues. Prepared for the Environmental Protection Agency (South Australia). Available at: http://epa.sa.gov.au/pdfs/landfill_alternatives.pdf.
- Saint Andrew's Anglican Church (2007) Correspondence with Foodbank WA, 3 September.

SITA Environmental Solutions (2006) *LGA Resource Recovery and Waste Summit*, 10 February. Available at: www.lga.sa.gov.au/webdata/resources/files/Greg_Panigas.pps#256.

Vozoris, N.T. and Tarasuk, V.S. (2003) Household food insufficiency is associated with poorer health. *Journal of Nutrition*, 133 pp 120–6.

Waste Management Board (WA) (2007a) *Disposal - For Business and Industry*. Available at: www.zerowastewa.com.au/.

Waste Management Board (WA) (2007b) *WA: Total Recycling Activity in 2005/06*. Available at: www.zerowastewa.com.au/communication/news/article.php?artid=226.

Acknowledgements

This paper is based on research on Foodbank WA funded by Curtin University of Technology (Koshy & Phillimore, 2007). The authors would like to thank Professor Jeanette Hacket and Dr Ian Fairnie at Curtin for their support for this research and Doug Paling, Liza Duplock and Hamish Dobie at Foodbank WA for their advice and assistance. Further thanks should go to two anonymous referees and the editorial staff of this journal. Any remaining errors are solely attributable to the authors.

Notes

- ¹ Foodbank WA is the third largest WA food distribution business after Wesfarmers (through its ownership of Coles Myer) and Woolworths.
- ² Most foodstuff waste is classified as being *wet* or *putrescible* waste and incurs larger costs because it is biodegradable, unlike *dry* or *inert* waste such as concrete and other structural materials.
- ³ Calculation: Families assisted = [Retail Value of Foodbank Sales/Typical Annual Retail Purchases by Community Agency over 12 months to assist one family] = \$18,000,000/\$2,160 = 8,333.
- ⁴ WA may have a higher representation of disadvantaged households due to several factors, including higher property and rental prices and a proportionally greater number of disadvantaged indigenous households.