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FINAL REPORT

Enhancing Foodbank's Stakeholder Engagement

Author(s):

Upamali Amarakoon

End Food Waste Cooperative Research Centre, Central Queensland University, Australia

Xiaoyan Liang

Xi'an Jiaotong-Liverpool University, China

Susan Bird

Charles Darwin University, Australia

Khouloud Kamalmaz

End Food Waste Cooperative Research Centre, Central Queensland University, Australia

David Pearson

End Food Waste Cooperative Research Centre, Central Queensland University, Australia

Sarah Pennell

Foodbank, Australia

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Level 1, Wine Innovation Central Building, Cnr Hartley Grove and Paratoo Road, URRBRAE SA 5064
enquiries@endfoodwaste.com.au +61 8 8313 3564

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Panel Review Statement

End Food Waste CRC recognises the value of knowledge exchange and the importance of objective peer review. It is committed to encouraging and supporting its research teams in this regard. The author(s) confirm(s) that this document has been reviewed and approved by the Project Leader and Industry Partner.

This project has also been evaluated by the End Food Waste CRC publication review panel. These reviewers evaluated its:

- Methodology articulated clearly
- Positioning of findings within the current literature
- Acknowledged compliance with food safety standards
- Conclusions against results
- Relevant human and/or animal ethic approvals obtained

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Industry Partner Foreword

The Enhancing Foodbank's Stakeholder Engagement Project was the first that Foodbank initiated with End Food Waste CRC which is indicative of its importance to Foodbank and the broader food relief sector. While we are working to reduce food waste, food insecurity is growing. Enhancing stakeholder engagement is a proven strategy for improving organisational capacity. Yet enhancing engagement has been identified as a significant barrier for the food relief sector in addressing the scale of the need.

This project involved two studies. Study One focused on food recipients via annual surveys to better understand the nature of food insecurity in Australia. This information led to the annual Foodbank Hunger Report (from 2020 to 2023). In addition to this, CQUniversity carried out complex statistical analyses on the collected data from 2017 to 2022 to identify meaningful segments of food insecure Australians. Study Two, aimed at understanding stakeholder expectations, utilised a qualitative exploratory method to gather data from volunteer managers, coordinators of participating corporates, corporate volunteers, and various secondary sources across Foodbank's State operations. This project has successfully addressed its objectives. The outcomes of this project have contributed to an increase in both surplus food rescued, and vulnerable people assisted.

Sarah Pennell

Chief Operating Officer – Foodbank Australia

02 Feb 2024

Executive Summary

Background

Food insecurity is a growing concern in Australia. Yet, 7.6 million tons of food is wasted annually; 70 percent of which is perfectly edible. Foodbank Australia, as the nation's leading food rescue organisation, actively redirects this surplus to those in need. This effort currently satisfies only 60% of the demand for food relief. This project, a joint effort between CQUniversity and Foodbank Australia, aimed at enhancing stakeholder engagement, and boosting Foodbank's ability to extend food relief to more Australians.

Objectives

This project focuses on two stakeholder groups of Foodbank, (a) food recipients, and (b) corporate volunteers. Drawing from the previous research in stakeholder engagement, this project first focused on understanding stakeholder expectations and then developing targeted strategies/interventions to meet their expectations and requirements. The specific objectives of this project were to:

- understand the nature of food insecurity in Australia,
- understand the characteristics and experiences of food insecure Australians,
- meaningfully segment food insecure Australians, and
- understand how Foodbank's corporate volunteer engagement can be enhanced.

Methodology

To achieve the above objectives, two key studies were conducted. Study One, addressing the first three objectives, employed a multi-method approach to explore food insecurity in Australia. It involved Foodbank's team conducting annual hunger surveys with a representative sample of Australians and qualitative interviews to capture the experiences of food insecure individuals. The CQUniversity team then performed comparative statistical analyses of survey data spanning 2017 to 2022. Study Two, aimed at the fourth objective, utilised a qualitative exploratory method, gathering data from volunteer managers, coordinators of participating corporates, corporate volunteers, and various secondary sources across Foodbank's State operations.

Results

Analysing hunger survey data from 2020 to 2023, the Foodbank team produced four annual Hunger Reports. Hunger Reports use percentages and clear graphics to illustrate food insecurity levels, socio-economic characteristics, causes, consequences, and barriers to food relief in Australia. These reports, enriched with insights from qualitative interviews, offer an in-depth view of severe food insecurity experiences. The CQUniversity team's comparative analyses of 2017-2022 data revealed evolving food insecurity trends and socio-economic profiles. This report uses advanced statistical methods to segment food insecure Australians in 2022 dataset into five clusters: Trust Friends, Young and Employed,

Embarrassed Boomers, Unaware, and Suitability Assessors. This segmentation informs the development of targeted interventions, as outlined below:

Clusters	Characteristics	Interventions
Trusted friends	Comfortable seeking help from friends and family; studying full-time, between houses or living with others	Partnering with educational institutions (e.g., universities, colleges, TAFEs) to provide food relief.
Young and employed	Believe that others need assistance more than self, young (<=24), working full time, middle to high income	Social media driven targeted campaigns to raise awareness and reduce stigma associated with seeking relief, Click and collect type after-hours service to improve accessibility.
Embarrassed boomers	Embarrassed/ashamed to seek help, older (55-74), involved in home duties	Targeted campaigns to reduce stigma associated with seeking relief, Partnering with local community driven existing organisational settings to provide food relief.
Unaware	Unaware of nearby places to seek relief, middle aged (40-54), low income, on a disability/carer income	Partnering with local community driven existing organisational settings to provide food relief, Expanding mobile food relief services.
Not satisfied	Believe that the food provided does not suit needs, living in non-private dwellings (i.e., communal/group type accommodation)	Partnering with communal house providers to organise food preparation sessions, Improve understanding of requirements to cater their food preferences.

Study Two identified gaps in expectations regarding volunteering opportunities, operational consistency across states, and communication. Utilising established models from the literature, the study proposes a five-component approach to improve engagement with corporates and corporate volunteers. These findings successfully meet the project's objectives.

Recommendations

Based on our findings, the following key recommendations were advanced:

- Use of recognised and consistent measurement scales in the annual Hunger survey to improve the validity, reliability, and comparability of data.
- Supplement percentage data with advanced statistical analysis to draw meaningful and accurate interpretations.
- Develop targeted interventions to reach out to food insecure Australians who are currently not seeking assistance.
- Co-create corporate volunteering programs with selected corporate partners to provide more volunteering opportunities for corporates and enhance their engagement with Foodbank.
- Appoint a dedicated corporate volunteer coordinator in each Foodbank State operation.

- Implement a nationally consistent booking system to ease administrative tasks and enhance communication between Foodbank State operations and corporates.

Impact

This project illustrates that stakeholder engagement not only enhances organisational performance but also significantly boosts reputation, visibility, legitimacy, and overall social impact. If the outcomes of this project contribute to enhancing Foodbank's capacity by 0.1 percent, that will result in,

- 82,000 more meals to Australians in need,
- stopping over 20,000 kilograms of food going wasted and thereby reducing greenhouse gas emissions,
- social return on investment of around \$500,000 (for each kg of food distributed, estimated social return is \$23), and
- significant contribution toward United Nations Sustainable Development Goal 2 (world free of hunger by 2030) and 12.3 (halving per capita food waste by 2030).

1. Introduction

Food insecurity is a growing concern in Australia. Food insecurity is referred to as having limited access to safe, nutritious and adequate food for a healthy, fulfilling and active life (FAO, 2022; USDAFAO, 2022). Although food is a basic human right, 3.7 million Australian households have experienced food insecurity in the 12-month period from August 2022 (Foodbank, 2023). Australia produces three times more food than we need for consumption. Yet, Australia creates 7.6 million tonnes of food waste annually; 70 percent of which is perfectly edible. Food rescue organisations such as Foodbank Australia collect food that would otherwise go wasted and re-distributes to those in need. However, efforts like this reach only around 60 percent of those wanting food relief. Edible food being wasted while many Australians are food insecure highlights the need for enhancing the capacity of food rescue organisations.

The literature identifies enhancement of stakeholder engagement as a proven strategy for improving organisational capacity (Kujala et. al., 2022), particularly for non-profits (Noland and Phillips, 2010). Stakeholders are individuals, groups, or organisations whose interests and action can significantly affect or are affected by organisational operations (Freeman, 1984; Savage et al., 1991). In the Foodbank context, stakeholders include (but are not limited to) employees and management, corporate donors/partners (providing ingredient, manufacturing, packaging, transport, or financial assistance), individual donors, partnering charities, volunteers, Governments, community groups, schools, and relief recipients. Since its inception in 1972, Foodbank has been striving for “an Australia without hunger”. In this process, Foodbank has developed strong collaborations with its stakeholder(s)/groups to “deliver the most food to the most Australians in need in the most efficient and effective ways” (Foodbank, 2023). However, given that the demand from Australians needing food relief is not fully met, while a large amount of perfectly edible food is wasted, there is scope for Foodbank to expand its operational capacity. This project focuses on enhancing Foodbank’s stakeholder engagement as a strategy for expanding its operational capacity.

1.1 Stakeholder Engagement Literature

Stakeholder engagement is a process of creating mutual value through development of respectful, honest, and productive relationships (Noland and Phillips, 2010). It is an inclusive, interactive, and continuous process (Cundy et al., 2013). Foodbank works collaboratively with its partner organisations, using their manufacturing facilities to produce staple foods (e.g., pasta, bread, fresh milk, cereal), including not just the ingredients, but also the packaging and transport services provided by the partner organisations. This is an excellent example of high-level stakeholder engagement. The literature identifies stakeholder engagement to consist of three components namely, (a) moral, (b) strategic, and (c) pragmatic (Kujala et. al., 2022; Mitchell et. al., 2022). In the above example, we can observe all three components of stakeholder engagement. Partnering organisations respecting and recognising Foodbank’s requirements illustrates the *moral* perspective of stakeholder engagement (Noland and Phillips, 2010). The *strategic* perspective is illustrated through reputation enhancement and social value creation for partnering organisations and

performance and productivity improvements for Foodbank (Freeman (1984)). The *pragmatic* perspective is demonstrated through practical action to address the demand for staple food (Kujala et. al., 2022; Mitchell et al., 2022). Overall, stakeholder engagement is evident to improve the performance (Sepulcri et al., 2020; Willems et. al., 2016), reputation (Willems et. al., 2016), visibility (Dong and Zhang, 2019), legitimacy (Lee and Szkudlarek, 2021) and social impact (Duong et al., 2019; Manetti, 2015) and therefore enhance the overall capacity of nonprofits.

Despite the significance of stakeholder engagement in the operations of nonprofits and availability of supporting empirical evidence, the research on stakeholder engagement has primarily focused on the for-profit context paying limited and fragmented attention to non-profits (Noland and Phillips, 2010). Stakeholder theory, which is the dominant underlying theory on stakeholder engagement, suggests that stakeholders' understanding of each other's expectations as the foundation for enhancing their engagement (Freeman, 1984; Kujala et. al., 2022; Mitchell et al., 2022). Given that (a) stakeholders' mutual expectations in nonprofit context differ significantly from those of for-profit context, and (b) learnings from for-profits are not directly applicable in nonprofits, stakeholder engagement in nonprofits warrants further research attention.

1.2 Project Scope

This project focused on two categories of Foodbank's stakeholders: customers and workforce. These two stakeholder categories are significant for Foodbank's food relief delivery.

1.2.1 Study One – Foodbank's customers

A fundamental step in tackling hunger is to better understand who is affected. Since 2017, Foodbank carries out an annual survey to understand who goes hungry and who needs assistance in Australia. Based on the findings of this survey, Foodbank prepares its annual Hunger Report, which provides useful insights to practitioners and policy makers in addressing hunger in Australia. Given that efforts of food relief organisations/charities are estimated to reach around 60 percent of Australians wanting food relief, a detailed and up-to-date understanding of hunger in Australia is warranted. Therefore, **Phase One of Study One** focused on understanding the (a) nature of food insecurity in Australia, and (b) characteristics and experiences of food insecure Australians. The findings of this stage are presented in five of Foodbank's annual Hunger Reports from 2020 to 2024 (forthcoming).

Despite the increase in food insecurity in Australia, the number of households seeking food relief in Australia continues to drop. In 2023 around 45% food insecure households sought relief, compared to 58% in 2022. There is a growing need for food relief organisations to attract more food insecure Australians. The literature suggests that segmenting individuals who are similar can assist development of targeted interventions for effective behavioural change (Chacón et al. 2016; Gilbertson et. al., 2011). However, the application of targeted intervention development is limited, particularly in the Australian food relief context. Therefore, **Phase Two of Study One** focused on attracting more Australians in

need of food relief (to seek assistance). This phase involved analysing Hunger Report data to (a) meaningfully segment food insecure Australians, and (b) develop targeted food relief interventions.

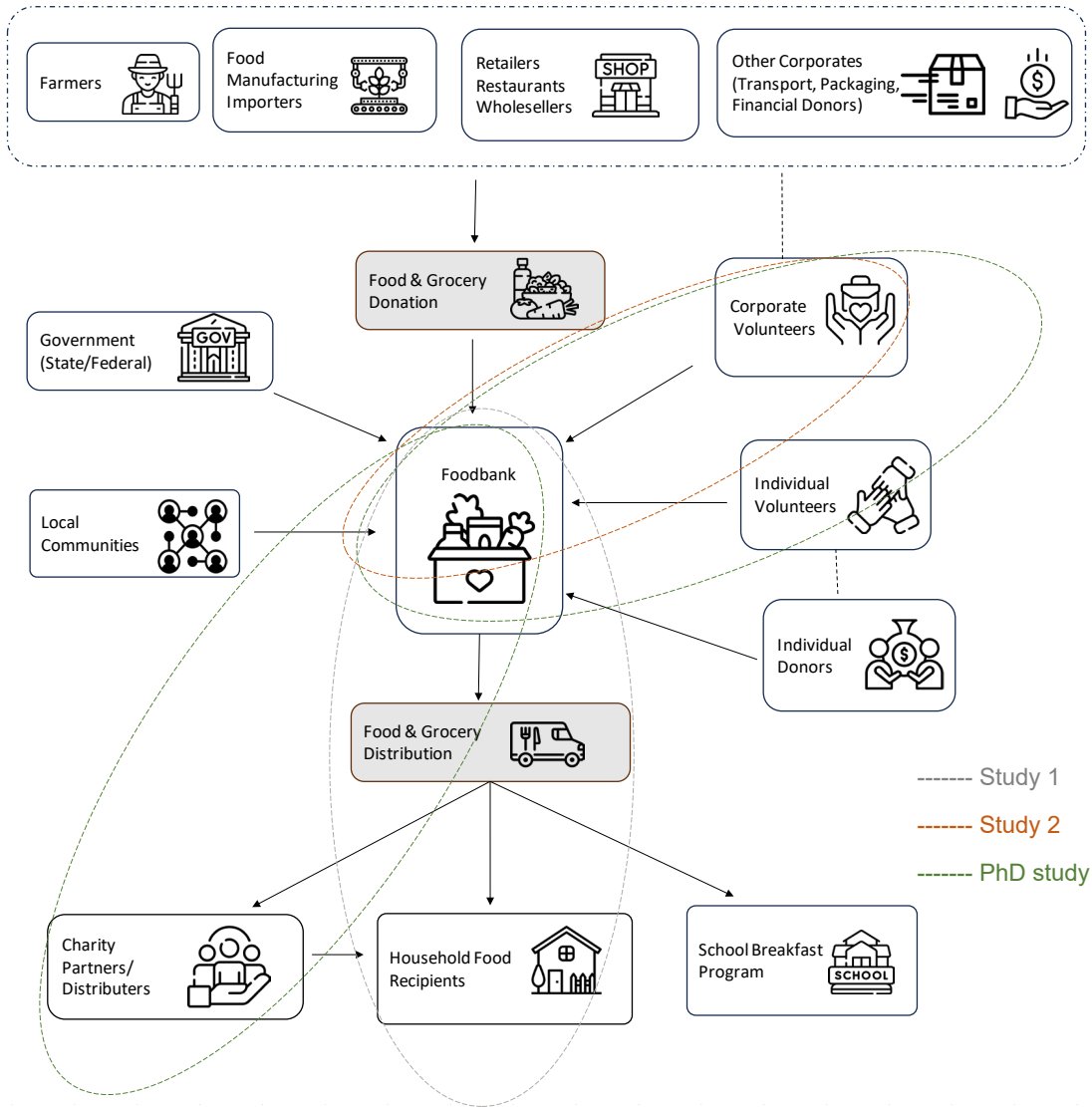


Figure 1: Project Scope

1.2.2 Study Two – Foodbank’s workforce

Foodbank relies heavily on the individual and team volunteers who generously give their time to assist Australians in need. Volunteers enable Foodbank to distribute over 100 000 meals every day. In addition to making a meaningful contribution, the volunteering program at Foodbank allows volunteers to utilise their existing network and abilities, gain

new skills, and meet new people. However, the success of Foodbank's volunteering program has led to a very high demand for volunteering positions, particularly from corporate volunteers (Liang, et. al., 2022). Therefore, the majority of Foodbank's State operations (e.g., VIC, WA, NSW/ACT, and SA) are compelled to turn down those who are willing, available, and enthusiastic to volunteer. While the high demand ensures a steady workforce, not providing volunteering positions means a lost opportunity for new channels of food and financial donations, and for promoting Foodbank's cause (Liang, et. al., 2022). Furthermore, external factors such as COVID-19 created volatility in physical availability of corporate volunteers in Foodbank's State operations (due to sudden lockdowns and concerns of corporates), despite the willingness of respective individuals to make a contribution. Therefore, Study 2 focused on enhancing corporate volunteer engagement beyond traditional donation of free labour. Specifically, this study aimed at (a) understanding challenges in engaging corporate volunteers, and (b) identifying feasible tools and strategies to enhance engagement of corporate volunteers.

1.2.3 PhD study

Foodbank partners with 2,625 frontline charities to reach out to Australians in need. These charities receive food from Foodbank which then gets distributed to those in need of food relief across the country. This network of partnering charities is a vital part of Foodbank's supply chain. The food distribution process is enabled by a strong workforce of volunteers carrying out a range of operational (picking, packing, moving/driving, and managing mobile warehouses) and administrative tasks every day. Enhancing the engagement of partnering charities and volunteers (regular and corporate) is vital for reaching out to more Australian in need. Drawing from the stakeholder theory, PhD candidate Khoulood Kamalmaz's study focused on understanding challenges of engaging partnering charities and volunteers. As such, the PhD study focuses on interaction between (a) Foodbank's employees/managers and volunteers, and (b) Foodbank's employees/managers and partnering charities. Given the limited research attention on the outbound/delivery side of non-profit supply chains, this study is timely and significant for theory and practice.

The stakeholder map presented in Figure 1 further outlines the scope of this project. However, this report primarily focuses on Study 1 and Study 2. Detailed information on the PhD study will be made available as a PhD thesis, which will be available after the thesis examination process.

2. Methodology

The methods adopted in each study were driven by the research questions addressed. The Table 1 below maps research questions with methods adopted and outcomes obtained.

Table 1: Methods Mapping

Study	Stakeholders focused	Method(s)	Project responsibility	Outcomes
Study One – Phase One RQ1 - What is the nature of food insecurity? RQ2 -What are the characteristics and experiences of food insecure Australians?	Food insecure Australians	Mixed methods: Quantitative survey followed by qualitative interviews	Foodbank Australia	<ul style="list-style-type: none"> Annual Hunger Report (from 2020 to 2023) <i>Note: 2024 Hunger report will be published after the completion of this project</i>
Study One – Phase Two RQ3 - If and how can food insecure Australians be meaningfully segmented?	Food insecure Australians	Statistical analysis of secondary data	CQUniversity research team (approved by - CQUniversity Human Research Ethics Committee)	<ul style="list-style-type: none"> Meaningful segments of food insecure Australians Targeted interventions to assist food insecure Australians
Study Two RQ 4 - How can Foodbank enhance their corporate volunteer engagement?	Corporate volunteers	Qualitative interviews, focus groups, and documentary analysis	CQUniversity research team (approved by - CQUniversity Human Research Ethics Committee)	<ul style="list-style-type: none"> Understanding of challenges related to engaging corporate volunteers Tools and strategies to enhance corporate volunteer engagement

2.1 Study One – Phase One

This phase focused on addressing *RQ1 - What is the nature of food insecurity?* and *RQ2 -What are the characteristics and experiences of food insecure Australians?*. Considering the nature of these research questions, Foodbank adopted a sequential mixed method approach in this phase.

2.1.1 Data collection

As presented in Table 2, annual Hunger Report data collection generally involved three steps with some variations in certain years.

Step 1 – The objective of this step was to identify the level of food insecurity among Australians. In July each year, Foodbank ran a largescale online survey using a stratified sample of Australians aged 18 or older. This sample was nationally representative by age, gender, and location (capital city/ rest of State). From 2021, these participants were asked a set of 18 questions adopted from the United State Department of Agriculture (USDA) Household Food Security Survey Module (HFSSM) (see Appendix B1) to determine if they had experienced food insecurity in a period of 12 months from August of the previous year. Accordingly, participants belonged to one of the four categories namely ‘severely food insecure’, ‘moderately food insecure’, ‘marginally food secure’, and ‘highly food secure’ (see Appendix B2).

Before 2021, food insecurity was measured using a single-item question. HFSSM being the internationally recognised standard measure for capturing food (in)security, adopting this module since 2021 has positively impacted the validity and reliability of the Hunger Report survey.

Step 2 - Those who were identified to be moderately and severely food insecure were asked to respond to more questions on their socio-demographic characteristics (e.g., age, gender, household type and income), contributors for food insecurity, and reasons why they do not reach out for adequate food relief. However, since 2022, Steps 1 and 2 have been combined. Therefore, all participants in Step 1 have been provided the full survey questionnaire including socio-demographic characteristics.

Step 3 – With the assistance of Foodbank’s partnering charities, a few food insecure Australians were interviewed to get a deeper understanding of their nature of food insecurity and associated experiences.

Table 2: Number of Hunger Report Survey Participants

Objectives of each step	No of participants			
	2020	2021*	2022	2023
Step 1: Survey - Identify the level of food insecurity among Australians	1001	2877	4024	4342
Step 2: Survey – Understanding characteristics and experiences of food insecure Australians	500*	1725	1735**	1514**
Step 3: Interview – Deeper understanding of the nature of food insecurity and experiences of food insecure Australians	9	***	***	***

* Instead of one survey, five pulse surveys were carried out to accurately capture the impact of COVID-19 on food insecurity

**Since Steps 1 and 2 are combined, food insecure Australians identified in Step 1 are recorded here

***Do not have a record of the exact number of interviews conducted

Prior to commencement of data collection, participants of all steps were made aware of the objectives of the respective step they participated in and their right to withdraw (if they opt to do so prior to data analysis). All survey responses were anonymised. Interview participants were provided the option to be anonymised. Yet, a few participants were happy for them to be recognised and their pictures to be included in the Hunger Report.

2.1.2 Data analysis

Analysis of data from the Hunger Report was carried out by Foodbank in partnership with an external service provider (e.g., Mccrindle, IPSOS), around August each year. The analysis of survey data was descriptive and primarily used percentages. For this report, the CQUniversity team re-ran descriptive statistics based on the Hunger Report datasets (from 2017 to 2022) Foodbank shared. Table 3 presents frequencies and percentages of food insecure Australians across different socio-demographic characteristics. Qualitative interview data have been used as supplementary evidence to better understand the gravity of food insecurity issue in Australia.

2.2 Study One – Phase Two

While there is wide acceptance and recognition that individuals are different, it is challenging to identify and measure relevant and meaningful segments based on individual differences. This phase focused on addressing RQ3 - *If and how can food insecure Australians be meaningfully segmented?*. In this phase, the CQUniversity team statistically analysed Hunger Report survey data from 2017 to 2022, provided by the Foodbank team. Therefore, this phase is based on secondary data. The ethical clearance for this phase was provided by CQUniversity Human Research Ethics Committee in October 2019 (clearance number 0000021975).

2.2.1 Data analysis

The CQUniversity team used IBM Statistical Package for Social Sciences (SPSS) (version 24) in this multi-step analysis. First, frequency analysis was carried out to understand socio-demographic characteristics of food insecure Australians across datasets. Second, independence testing via t-Tests and Chi-square tests were carried out respectively to examine the association between variables. This included testing if food insecurity has a statistically significant association with categorical variables such as gender, location (rural/metro), Indigenous status (not available in 2021), migrant status (available only in some datasets), employment status, household type, and household income. The differences in data categories across years made it challenging to create meaningful comparisons. For instance, except for 2021 and 2022, age categories varied across each dataset.

Table 3: Food Insecure Australians

		2017		2018		2019		2020		2021		2022		
		No	%	No	%	No	%	No	%	No	%	No	%	
No of Food Insecure Australians		511		767		1017		1001		1725		1735		
Food insecurity	Least /Marginal	125	24.5	28	3.7	100	8.9	30	3	568	33	445	26	
	Somewhat			67	8.7			36	3.6					
	Moderate	291	56.9	326	42.5	172	16.9	156	15.6	466	27	487	28	
	Severe	95	18.6	324	42.2	745	73.3	779	77.8	691	40	803	46	
Gender	Male	234	45.8	381	49.7	504	49.6	420	42	784	45	853	49	
	Female	277	54.2	386	50.3	512	50.3	572	57.1	934	54	882	51	
	Other	-	-	-	-	1	0.1	9	0.9	7	0	-	-	
Household Type	Couple with Dependents	145	28.4	205	26.7	296	29.1	352	35.2	565	33	611	35	
	Couple without Dependents	118	23.1	159	20.7	241	23.7	210	21	454	26	250	14	
	Group Household	45	8.8	92	12	126	12.4	104	10.4	155	9	149	9	
	Lone Person	111	21.7	202	26.3	227	22.3	202	20.2	376	22	411	24	
	Single Parent	58	11.4	99	12.9	117	11.5	122	12.2	155	9	143	8	
	Multigenerational Household/ with Parents	31	6.1	-	-	-	-	-	-	-	-	156	9	
	Other	3	0.6	10	1.3	10	1	11	1.1	20	1	15	1	
Location	Metro	365	71.4	496	64.7	753	74	763	76.2	-	-	1152	66	
	Rural/Regional/Remote	146	28.6	271	35.3	264	25.9	238	23.8	-	-	583	34	
Indigenous Status	Indigenous	37	7.2	68	8.9	91	8.9	204	20.4	278	16	348	20	
	Non-indigenous	474	92.8	699	91.1	926	91.1	797	79.6	1447	84	1369	79	
Migrant/ non-migrant	Migrant	-	-	-	-	211	20.7	236	23.6	316	18	-	-	
	Non-migrant	-	-	-	-	806	79.3	765	76.4	1409	82	-	-	
Income	Low	245	47.9	384	50.1	464	45.6	311	31.1	530	31	727	42	
	Middle-to-High	266	52.1	383	49.9	553	54.4	463	46.3	1195	69	914	53	
Employment Status	Pension/Retired	58	11.4	82	10.7	107	10.5	73	7.3	261	15	153	9	
	Employed Full-time	140	27.4	210	27.4	305	30	389	38.9	572	33	583	34	
	Part-time / Casual	84	16.4	139	18.1	202	19.9	176	17.6	341	20	329	19	
	Unemployed	59	11.5	89	11.6	110	10.8	104	10.4	144	8	131	8	
	Full time Student	32	6.3	32	4.2	50	4.9	49	4.9	50	3	103	6	
	Self-Employed	19	3.7	41	5.3	54	5.3	58	5.8	86	5	81	5	
	Disability pension / carer	65	12.7	88	11.5	76	7.5	85	8.5	126	7	158	9	
	Home duties	50	9.8	81	10.6	102	10	65	6.5	129	8	145	8	
	Other	4	0.8	5	0.7	11	1.1	2	0.2	16	1	28	2	
Age	<=24	Age categories for each year were different (see Appendix B3)									133	8	281	16
	25-39										556	32	659	38
	40-54										519	30	475	27
	55-74										443	26	275	16
	75=<										74	4	45	3

Third, given the difficulty in drawing meaningful comparisons across datasets, cluster analysis was carried out. The objective of meaningful segmentation was to develop targeted interventions to assist more Australians in need. Noticing the decline in the proportion of food insecure Australians seeking assistance and the motivations of food relief organisations/charities to attract more Australians in need, the “barriers for seeking food relief” variable was used as the basis of clustering. We then used 2022 dataset and carried out K-means cluster analysis to cluster food insecure Australians (based on their barriers for seeking assistance). After examining three to eight cluster solutions, a five-cluster solution was selected. In selecting the cluster solution, our aim was to maximise the total number of segment while avoiding very small segments (with less than 10 percent of participants) (Everitt, 1974). However, we ran multiple iterations for each cluster solution, and this further confirmed the validity of chosen five cluster solution.

The analysis of variance (ANOVA) values (see Appendix B4) revealed that only six of the 13 barriers were significantly contributing toward clustering (F statistics ranging from 27.819 to 315.284; p values < 0.001). Smaller F statistics for “food provided does not suit my need”, “others are in greater need of assistance” and “hard to pick up food relief” indicate that these three items were closely impacting all food insecure Australians. We then carried out cross tabulation analysis to identify the differences in socio-demographic characteristics between the five clusters. We used standard residual analysis to understand how sub-categories of each variable differed across these five clusters.

The categories with standardised residual values beyond two standard deviations (i.e., < -1.96 or > 1.96) were identified to be significant (Pearson and Amarakoon, 2019; Haberman, 1973). Table 6 presents those socio-demographic variables found to be significantly different across the five clusters ($p \leq 0.01$). Age, income, housing status, employment status, and livings arrangements significantly contributed to cluster profile development (see Appendix B3). For instance, age group 55-74 had a standard residual value of -2.1 in Cluster 1, and therefore this age group has a less than expected frequency of presence in Cluster 1. In other words, those in age group 55-74 were less likely to belong to Cluster 1.

2.3 Study Two

Considering the exploratory (understanding ‘how’) nature of this study, we adopted a qualitative case study approach (Yin, 2014).

2.3.1 Data collection

With the intention of gaining a holistic view of the phenomena being investigated, we used multiple methods of data collection (Eisenhardt, et al., 2016; Yin, 2014). As indicated in Table 5, we collected primary data on corporate volunteer expectations and experiences through interviews, focus groups, and participant observation. Participating corporates’ expectations and experiences were captured via interviews with corporate representatives coordinating respective corporate volunteering programs. These participants reported to have interacted with one or more Foodbank’s State operations (VIC, NSW/ACT, WA or SA). We also captured views of one corporate that had stopped volunteering due to

the introduction of paid volunteering in some States. The majority of corporate representatives had a partnership (donating food, transport/packaging/manufacturing services, or money) with Foodbank Australia or at least a State operation.

Foodbank's expectations and experiences were captured via interviews with Foodbank's employees, including corporate volunteer program coordinators/volunteer managers of Foodbank's State-based operations and National head office. We primarily focused on Foodbank's State operations with high corporate volunteer engagement (VIC, WA, SA). We also collected data from representatives with no standard corporate volunteering program (NT) or had temporarily stopped corporate volunteering (QLD).

Interviews and focus groups were guided by a protocol consisting of open-ended questions to capture volunteering experiences and outcomes. We carried out extensive probing to capture diverse perspectives on our phenomena of interest. Interviews and focus groups were exhaustive, ranging from 20 to 60 minutes and undertaken by at least two of the research team members to minimize research bias (Eisenhardt, 1989). The secondary data included information from web pages and published annual reports of Foodbank's State operations.

The ethical clearance for this study was provided by CQUniversity Human Research Ethics Committee in October 2019 (clearance number 0000022085).

2.3.2 Data analysis

Interviews and focus groups were recorded and transcribed. In qualitative studies, the process of data analysis occurs before, during and after the data collection phase (Braun and Clarke, 2006; Eisenhardt, 1989; Matthews and Ross, 2010). It is a process that moves between gathering, and constantly reflecting upon social data and literature throughout the research (Matthews and Ross, 2010; Yin, 2014), and utilising this ongoing analysis to inform the research. For example, interviews with Foodbank's employees helped us shape the questions for the focus groups, allowing us to engage with a series of questions that moved away from volunteer motivations and toward outcomes and possible future contributions. More details of the data collection process are presented in Table 4.

We thematically analysed data, exploring the links between the literature and data while allowing new themes to emerge. In this process, we adopted the stepwise thematic analysis process suggested by Braun and Clarke (2006). We first read and re-read transcripts to familiarize ourselves with the data. Then, we identified key themes (first order data-centric categories) emerging from data. During this stage, data from multiple sources were compared with an aim to go beyond our initial impressions to derive more accurate and reliable themes (Eisenhardt, 1989; Eisenhardt, et al., 2016). Next, data-centric first order categories were collated to develop researcher-centric second order themes (Gioia, et al., 2013), moving back and forth between data and the corporate volunteering and stakeholder engagement literature. The use of data from multiple sources, and analysis of data by each of the research team members (individually and together), added to the quality of the data analysis process (Eisenhardt, 1989).

Table 4: Data Collection

Participant category	Method	No of participants	Description	Duration
Foodbank employees	Semi- structured individual interviews	10	4 x Volunteer managers/ coordinator, 2 x Corporate volunteer manager/coordinators, 1 X Foodbank Australia corporate relationships manager, 1 X Foodbank Australia coordinator, and 2 X regional warehouse manager/coordinator	30 to 60 mins each
Coordinators from participating corporates	Semi-structured individual interviews	5	Online	30 to 60 mins each
Corporate volunteers	Focus group	1 X 5 participants	Conducted at a metropolitan warehouse of a Foodbank's State operation	30 mins
	Semi-structured individual interviews	3	Online	30 mins each
	Participant observation		One research team member observed corporate volunteers in operation at a metropolitan warehouse	5 hours

3. Results

3.1 Study One – Phase One

As mentioned earlier, survey data analysis primarily focused on frequencies and percentages. For simplicity, the percentage values have been rounded off and some graphs presented in Hunger Reports may therefore sum up to 99 percent or 101 percent.

3.1.1 Food Insecurity in Australia

As presented in Figure 2, 48 percent of Australians households have either felt anxious or struggled to have access to adequate food in the 12-month period from August 2022. The Hunger Report survey 2023 reveals that the proportion of Australian households experiencing severe food insecurity has risen by two percentage points to reach 23 percent compared to 2022. The moderately food insecure proportion has increased to 13 percent (compared to 12 percent in

2022) and marginally food secure group has remained the same (at 12 percent). The proportion of food secure Australian households has decreased to 52 percent (from 55 percent in 2022).



Figure 2: Food Insecurity in Australia 2023

Source: Foodbank's Hunger Report 2023

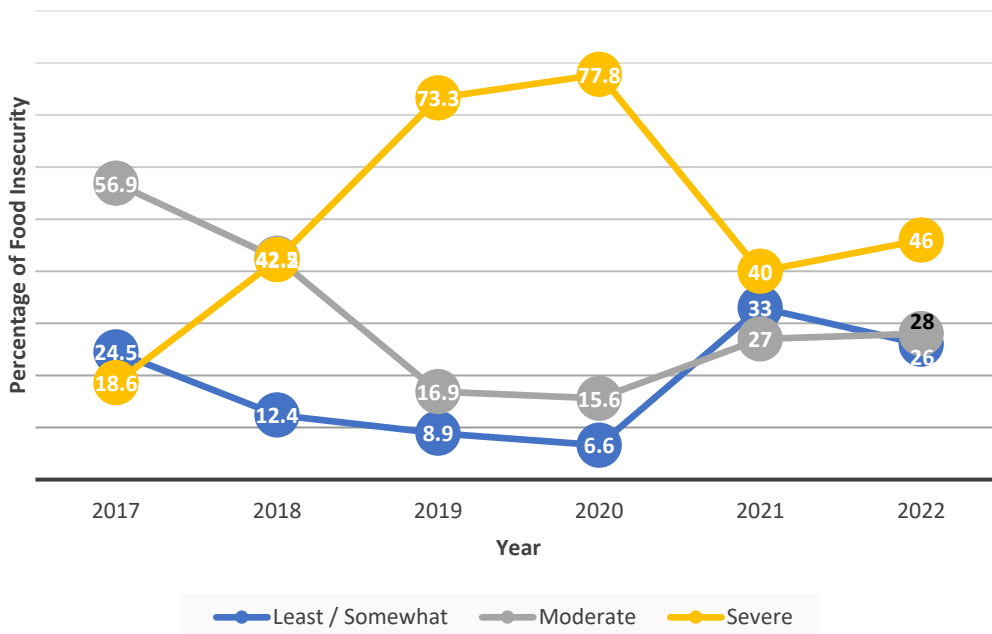


Figure 3: Food Insecurity Comparison (2017 – 2022)

Note – Food secure participants are not included when calculating percentages

Figure 3 presents comparisons of food insecurity using the survey data from 2017 to 2022. During 2019, implications of multiple natural disasters (e.g., droughts, bushfires, floods in different part of the country) have escalated the proportion of severely food insecure Australians. That proportion further increased in 2020 due to COVID 19 related implications. Despite the encouraging drop in 2021, the proportion of severely food insecure Australians is gradually increasing.

Similar to Figure 2, the Hunger Report presents data pictographically accompanied by simple words and comparisons for the ease of understanding by a wider audience. For instance, Figure 4 is an extract from the Hunger Report 2023, which highlights the number of households experienced food insecurity in the 12-month period starting from August 2022. The comparison for food insecure households to combined households in Melbourne and Sydney makes it easy for anyone to understand the gravity of the food insecurity issue in Australia.



Figure 4: Food Insecurity in Australia Explanation

Source: Foodbank's Hunger Report 2023

The use of qualitative quotes from food insecure Australians supplement quantitative data presented in the Hunger Reports. For instance, the following quotes provide detailed understanding of experiences of food insecure Australians/Australian households.

Focused on feeding the children and pets because although uncomfortable the adults could wait/ eat less and by doing so the children and pets are unaware of the stressful situation (Female, 25-34 years old, metro SA, home duties) - Foodbank’s Hunger Report 2023

I just didn’t eat for 3 days and when I did eat, I’d try to only eat small amounts to do my best to make the food last (Female, 25-34 years old, metro VIC, employed full-time) - Foodbank’s Hunger Report 2023

I was the only one that went without some meals. My husband and son always have food. They don’t know that I have been going without (Female, 60-45 years old, QLD) – Foodbank’s Hunger Report 2021

3.1.2 Reasons for Food Insecurity

As presented in Figure 5, the ‘rising cost of living’ is found to be the highest contributor to household food insecurity in 2023. It also identifies ‘reduced or low income/Governmental benefits’ and ‘changes in household or living arrangements’ as other top reasons. Figure 6 compares top reasons for food insecurity between 2017 and 2022. Consistent with the findings from the Hunger Report survey 2023, the high cost of living and reduced / low income on average were found to be primary reasons for food insecurity. However, changes in types of reasons captured in Hunger Report surveys across different years is a challenging the process of making useful comparisons. For instance, as you can see from *unexpected large expenses* item was not included in the survey after 2021. New items such as *self/someone in the household being sick/unable to work*, have been included since 2022.

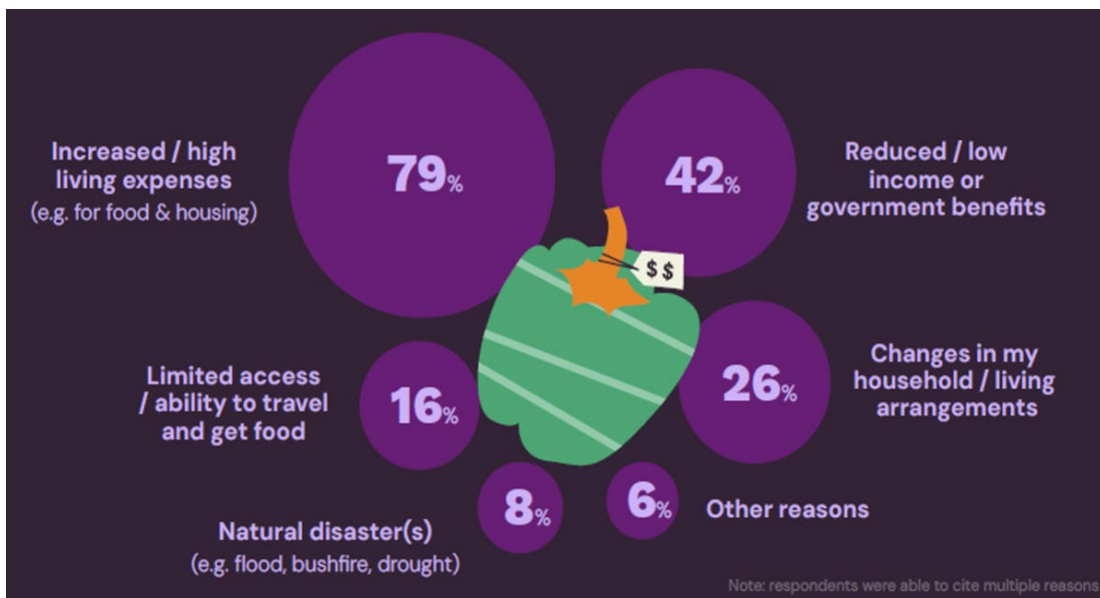


Figure 5: Reasons for Food Insecurity

Source: Foodbank’s Hunger Report 2023

All Hunger Reports provide a generic understanding of the profile of food insecure individuals, based on their demographic characteristics. For instance, Hunger Report 2023 reveals that those who have become food insecure recently were more likely to be younger (aged <45), employed, or with mid to high incomes. However, these profiles of food insecure Australians are too broad and therefore are not appropriate for developing targeted interventions to address food insecurity.

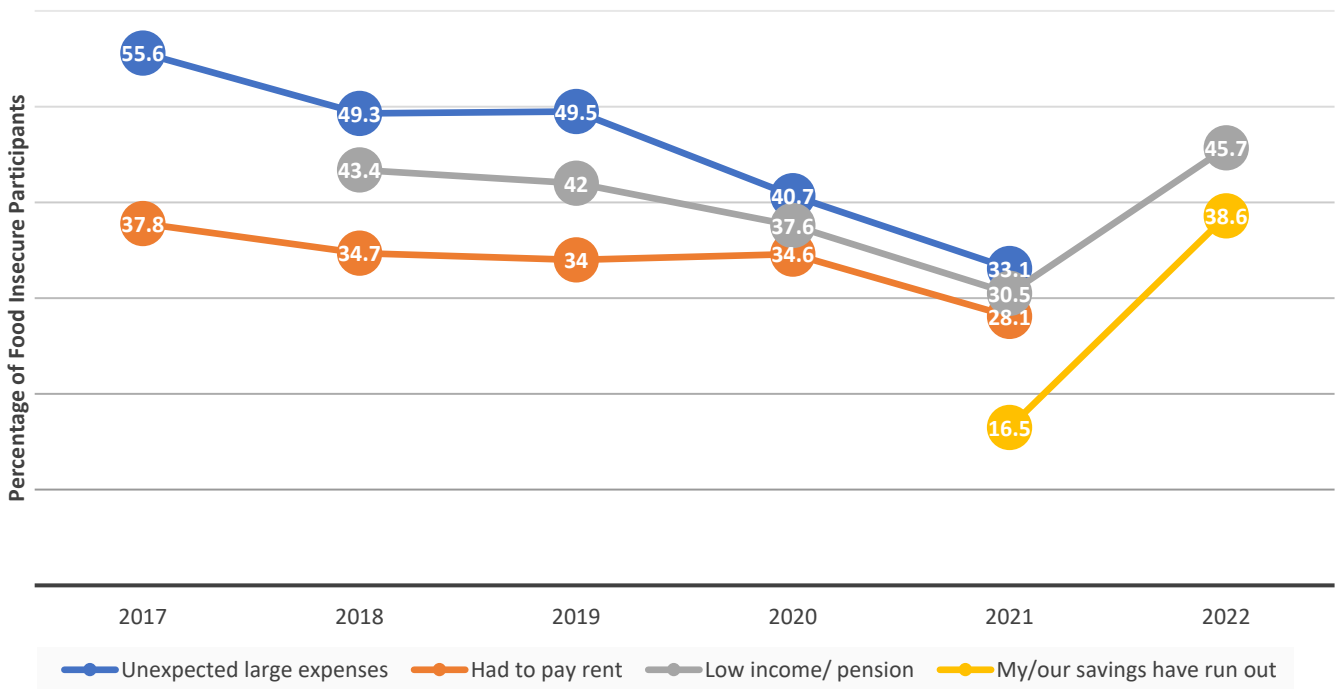


Figure 6: Reasons for Food Insecurity (2017 - 2022)

Note – Participants were allowed to pick more than one reason

3.2 Study One - Phase Two

Given that a large proportion of food insecure Australians are currently not receiving food relief and the motivation of food relief organisations/charities to reach out to more Australians in need of relief, in Phase 2, we focused on carrying out complex analysis to develop meaningful segments of targeted interventions.

3.2.1 Significance of Food Insecurity

The frequency and percentage values alone do not provide an accurate picture of categories of Australians who are food insecure. In the first stage of our analysis, we checked if differences between the proportions of food insecure Australians representing different socio-demographic groups were significant. For instance, Figure 7, which was developed based on the initial analysis presented in Table 3, might give the impression that 'Females' are generally more food insecure than 'Males'. However, our analysis showed that only in 2017 and 2020, Females were significantly more food insecure than Males. The percentage differences of food insecure gender categories were not significant in other years except for 2022, in which Males were found to be significantly more food insecure compared to Females.

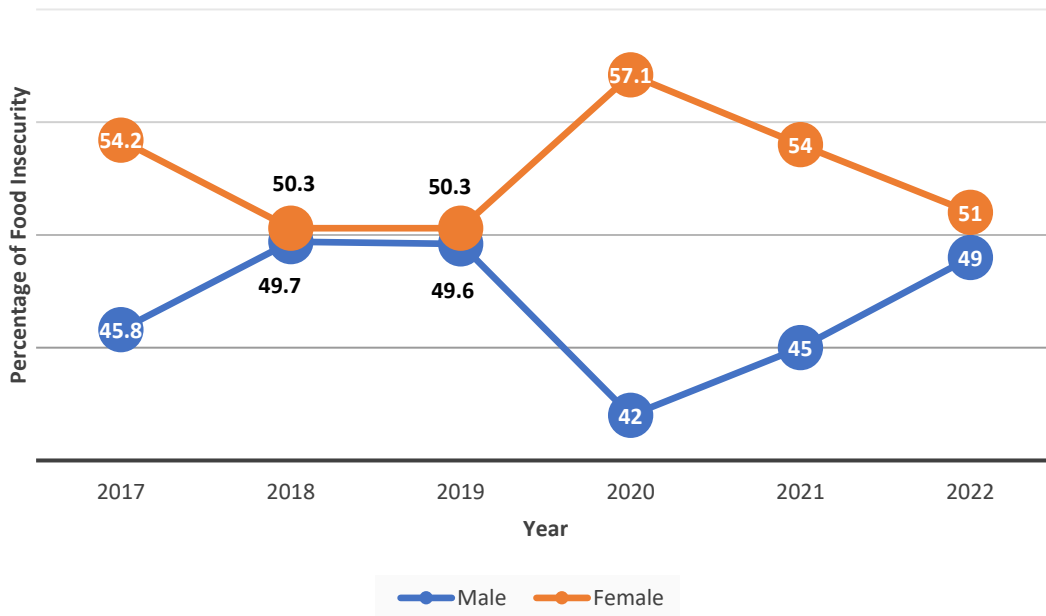


Figure 7: Food Insecurity vs Gender

Furthermore, our cross-tabulation analysis for 2022 dataset, presented in Table 5, showed that Males had significantly higher (than expected frequency) presence in the 'Sever Food Insecurity' category, while Females had significantly lower (than expected frequency) presence in the same category. While there was no significant difference across genders in the 'Moderate Food Insecurity' category, Females had higher (than expected frequency) presence in the 'Marginally Food Secure' category. Males were found to have a significantly lower than expected presence in the Marginally Food Insecure category in 2022. Although simple frequencies and percentages are easy to calculate, interpret, and understand, these findings highlight the need for such simple statistics to be supplemented with further analysis.

Table 5: Cross Tabulation Analysis – Food Insecurity vs Gender

Category	Severely Food Insecure		Moderately Food Insecure		Marginally Food Insecure	
	%	Standard Residual	%	Standard Residual	%	Standard Residual
Male	54	2	48	*	41	- 3
Female	46	-2	52	*	59	2

* Only significant standard residual values were recorded

3.2.2 Segmenting based on Barriers for Seeking Food Relief

Figure 8 presents the top barriers for seeking food relief based on survey data from 2017-2022. Accordingly, being ashamed/embarrassed, believing that others are in greater need, preference to seek assistance from a friend or family were found to be among dominant barriers for seeking food relief.

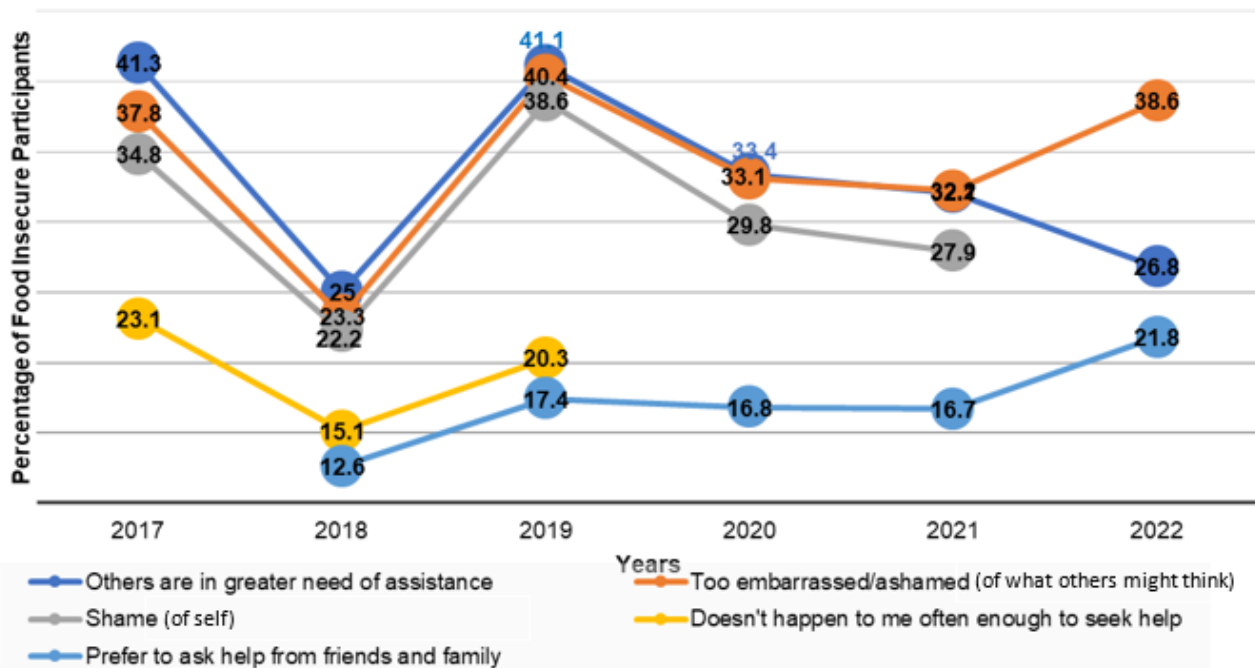


Figure 8: Top Barriers for seeking Food Relief (2017-2022)

Note – Participants were allowed to pick multiple barriers.

In subsequent analysis, we focused on each year and tried developing segments/clusters based on these barriers. This report presents clusters based on 2022 Hunger Report survey data.

Cluster 1 – ‘Trusted friends’

More likely to be comfortable seeking help from friends/family, and studying full-time, no permanent address/ between houses, less likely to be living alone.

Cluster 2 – ‘Young & employed’

More likely to believe that others need assistance more than self, and be young (≤ 24), in middle to high income group, and in full-time work.

Cluster 3 – ‘Embarrassed boomers’

More likely to be embarrassed/ashamed to reach out to food relief organisations, and be older (55-74), involved in home duties.

Cluster 4 – ‘Unaware’

More likely to be unaware of nearby food relief availability, and be in middle-aged group (40-54), low-income group, not employed, on a disability/carer income.

Cluster 5 – ‘Not satisfied’

More likely to believe that food provided does not suit needs, and be living in non-private dwellings (i.e., communal type accommodation).

These clusters identified served as a basis for developing customised management interventions to encourage individuals to seek food relief (see the Discussion section).

3.3 Study Two

Corporate volunteering is one of the fastest growing areas of volunteering. It is an employer-supported planned activity which enables employees to donate their time to a non-profit (de Gilder et al., 2005; Rodell et al., 2016). It is recognized as a ‘win-win-win’ scenario through which corporates provide resources to the community and gain reputational benefits whilst employees engage skill development opportunities (de Gilder et al, 2005) and nonprofits receive free labour to advance their operational efficiency. At Foodbank, corporate volunteers work in groups of fellow employees from their

corporation, which usually is a partner organisation (donating food, transportation, packaging, manufacturing services, or money) of Foodbank Australia or State-based operations.

Drawing from the stakeholder theory, which emphasises stakeholder expectation management as a fundamental for enhancing engagement (Clayton, 2014), our findings on stakeholder expectations are presented first. We then present the gap between expectations and experiences, highlighting challenges for enhancing engagement.

3.3.1 Expectations of Foodbank

Corporate volunteers are a valuable source of labour in Foodbank operations in Australia. They contribute thousands of hours of labour annually. They also are a great source of material and monetary donations. The following quote from a volunteer manager reiterates how corporate volunteering can lead to subsequent benefits for Foodbank.

...They've [participating corporate] done a sponsorship for our meal packs, so they've given us \$10,000...

Corporate volunteers were also found to create wider awareness of the food security and food waste issues Foodbank is striving to address. Provision of volunteering opportunities was found to strengthen the relationship between corporates and Foodbank. As one volunteer manager stated:

...It [corporate volunteering] wasn't just them doing us a favour, it's actually a relationship...

We analysed the data from Foodbank employees to develop a deeper understanding of the expectations of Foodbank's State operations. Overall, we identified three recurring themes of expectations from Foodbank employees namely, (a) more corporate volunteers, (b) reliability and commitment, and (c) optimising costs and benefits.

More corporate volunteers

Due to the benefits of corporate volunteering programs, nonprofits generally favour providing more opportunities for corporate volunteers. However, as mentioned before, Foodbank's State operations in Victoria, Western Australia, South Australia, and New South Wales are experiencing a very high demand for corporate volunteering positions.

Driven by this high demand, we found that corporate volunteer retention, where the same set of corporate volunteers return for volunteering, is not a priority of Foodbank's State operations. Instead, these State operations were found to favour including new corporate volunteers rather than existing ones. This is because new corporate volunteers would potentially expand Foodbank's donors (material or monetary) and/or awareness across their social networks about hunger issues and the role of Foodbanks in addressing hunger and food waste in Australia.

Reliability and commitment

Despite the interest in securing positions for volunteering by corporates, their daily work is understandably prioritised in many instances. As evident from the following quotes from participating corporates, even after committing to volunteer, some corporate volunteers would not turn-up or cancel at the last minute.

... So, we could've had a team of seven there. But actually, in the end we ended up with a team of three – Coordinator from a participating corporate

... we've actually had a lot of trouble in getting volunteers. You would think it would be easy but it's actually quite [hard] - and everyone wants to do it, but life gets busy, and things change – Coordinator from a participating corporate

This creates additional administrative and logistical challenges to Foodbank's State operations. Last minute cancellations made volunteer managers/coordinators to look for extra volunteers (mostly from their regular pool) to make sure that the food gets delivered to partnering charities as planned. We could therefore observe the Foodbank's State operations expect corporates to be reliable by turning up once they make a commitment to volunteer.

Corporate volunteers were generally found to be excited and committed. However, at times corporate volunteers were found to be bored/un-interested or rude and therefore not paying attention to details or disregarding instructions from Foodbank employees. As one corporate volunteer coordinator related:

... most groups are really engaged and really excited. Sometimes we have people that come in and they're not [interested in], they look really bored, like they don't want to be here, like they've been made to come here... not very engaged with the whole listening about what we do... We have had a group once who were quite rude and they were sort of talking over and on their phones ... you're trying to tell them about something really important...

We also observed an expectation for all participating corporate volunteers to be on time. At the beginning of each corporate volunteering session, corporate volunteers are provided an induction. Corporate volunteers arriving late may result in them missing the group induction and as a result a Foodbank employee having to repeat the induction for late arrivals. Given that Foodbank's State operations run with skeleton staff, this repetition was found to put extra administrative pressure on Foodbank's team.

Optimise costs and benefits

While we observed an overwhelming support for corporate volunteering programs, Foodbank teams were raised their concerns regarding their resource intensity.

It was highly resource-intensive... a lot of work that kind of goes into that with lots of new people – Volunteer Manager

While it's great to have them, because they support and give you the money as well, sometimes you think, oh, is it more of a hassle – Regional warehouse manager

The resources they referred to here included, time and effort in initial communication with the participating corporate to secure the position and get information on participants, providing participants with pre-arrival information (what to wear, arrival time, what activities they would be involved in), conducting induction and safety briefings on the day, and being available to support and respond any queries during the volunteering session. Spending a lot of resources on corporate volunteering programs was found to be a lot more challenging for regional operations with limited admin teams compared to their metropolitan counterparts.

To compensate for associated costs of managing corporate volunteering sessions and also to minimise sudden change of plans from participating corporates (e.g., session cancellations), certain State operations (e.g., VIC and WA) charges corporate volunteers. However, this was not found to be a common practice across all States.

3.3.2 Expectations of Participating Corporates

Based on our qualitative evidence, we identified six key themes related to expectations from participating corporates, which we labelled as (a) more volunteering, (b) ease of communication, (c) consistency, (d) safe and supportive work environment, (e) team building, and (f) social impact. Our findings under each theme are detailed below.

More volunteering positions

Securing a corporate volunteering position differs across each State operation of Foodbank. At Foodbank Western Australia, being the only State operation with an online booking system, corporates can check availability of positions online and make bookings to engage in either community kitchen or warehouse activities. At Foodbank Victoria, corporate volunteers can register their interest via the website to participate in either warehouse picking and packing, mobile supermarket, or fruit loop challenge. While Foodbanks in Queensland and South Australia allow corporates to register their interest online, NSW/ACT and Tasmania provides email contacts for interested corporates to directly contact respective Foodbanks. Those corporates who are partners of Foodbank nationally (donating food, manufacturing /packaging/ transportation services, or money) can contact Foodbank Australia (head office) to coordinate their volunteering positions across the country. Partnering corporates get free corporate volunteering positions (even in VIC and WA) depending on their level of national or State level contributions.

All corporate representatives who participated in this study, including volunteers themselves, preferred having more opportunities to volunteer. As evident from the quotes not only did corporates expect more volunteering positions, but also want to secure those positions well in advance to carefully plan their yearly social calendar/corporate social responsibility activities.

...We only get the one volunteering, free volunteering opportunity a year which I'm working to negotiate with them a few more because I understand there is a cost involved if you do more... – Coordinator from a participating corporate

...we can now lock in the next 12 months, and if we can't the program [corporate volunteering program] will stop because we need to be able to plan, to have that length of planning. We can't do it month to month, we have to let our business know what's coming, what day it's going to be on, so that we don't have this crossover...–

Coordinator from a participating corporate

...if there was an easier way for corporates to forward book or schedule volunteering, that would be very useful for both parties... even if it's three months ahead, or six months ahead, at least you know, and you've got people you can line up. – Coordinator from a participating corporate

Emphasising the difficulty in securing positions, corporates highlighted the importance of having an online booking system.

Ease of communication

The majority of corporates who participated in our study raised concerns about the difficulty in communicating with Foodbank's State operations. We observed this difficulty primarily related to unavailability of positions or delay in receiving responses regarding availability from Foodbank's State operations.

...there was probably a little bit of lack of communication between our relationship with Foodbank nationally and how that would link into the opportunities that we have at a State level...we have established a good relationship with probably the person who accepts our goods in terms of the products that we donate, who we've met with a couple of times, as well as our national partnership manager, but in terms of volunteering, yes, we don't really have that direct contact...– Coordinator from a participating corporate

However, as evident from the following quote, the communication between Foodbank State operations and participating corporates was also found to be (a) frequent and informative leading up to the volunteering session, and (b) supportive and informative during session.

... the detail are clear, the requirements are clear, the expectation around what is going to happen on the day is clear, and to this point in time it has always been very good.....– Coordinator from a participating corporate

Consistency across States

As mentioned above, the process securing volunteering positions and whether volunteering required a payment were found to be different across States. These inconsistencies were found to be very challenging for corporates dealing with Foodbank operations across multiple States. The quote below relates to a practical challenge faced by one participating corporate by presuming that Foodbank NSW/ACT requirement would be the same as Foodbank VIC.

... each State is different and has different requirements. So, we were told that we had to have three vaccinations, and that was coming from the team that had initially organised it in Melbourne. Unfortunately, when we got there [Foodbank NSW/ACT] they only required two vaccinations in New South Wales. So, it had actually cut out quite a few of our team... - Coordinator from a participating corporate

Safe work environment

The safety of participating employees was found to be a major concern for corporates when deciding on their corporate social responsibility activities. Foodbank was consistently recognised as a safe environment for corporates to volunteer. This recognition has further escalated the demand for volunteering positions at Foodbank.

Prior to the day of volunteering all corporates receive information on what to wear and what activities they would be involved in. On the day of volunteering, prior to the commencement of the session, all corporate volunteers receive a safety briefing as a part of their induction.

...there were a few hesitant from my team about hurting their back lifting heavy stuff, and there's education around it but even with that, when you go on a volunteering activity you don't want to injure yourself... You don't want to just get injured for helping out the community. - Coordinator from a participating corporate

The above quote relates to a safety concern from a corporate. If lifting is a concern, all Foodbank operations were found to allocate such volunteers to non-physical work at the warehouse. However, some volunteers and participating corporates were not aware of such opportunities. This could also be related to communication challenge presented above.

Team building

Corporate volunteering was increasingly viewed as a team building opportunity. Some participating corporates viewed it as an opportunity for employees from different departments to come together. Use of volunteering for team building was particularly evident among corporates who have a large proportion of their workforce working from home or in distant locations. As evident from the quote below, for such teams, volunteering was an opportunity to meet physically and make a meaningful contribution as a group.

...we sell to distributors who sell to businesses. So all my away from home team are coming into Sydney, and it was probably a couple of months out that I started trying to find time to, you know, book with Foodbank, and actually we weren't successful, which is a real shame, and we ended up having to do a cocktail making course, which was very fun but it just didn't cut it in...- Coordinator from a participating corporate

... I'd love for my whole team, regardless of where they are in Australia, to all on that day be working at a Foodbank site so then when we come together we can all share our experience ... - Coordinator from participating corporate

Furthermore, we observed a surge in demand for corporate volunteering opportunities around the end of the year, which is a period when many corporates organise team building activities.

Social impact

Corporate volunteering was predominantly viewed as a way of demonstrating social responsibility by the corporates. While making a social impact, a few corporates identified a focus on the reputational benefits volunteering can bring.

If you have a lot of your employees on LinkedIn or social media, talking about their volunteering, that breeds conversation, that attracts talent that maybe isn't aware of what you do, particularly in the Gen [Z], the 20-year-olds these days - Coordinator from a participating corporate

3.3.3 Expectations of Corporate Volunteers

All corporate volunteers who participated in this study confirmed that their volunteering opportunity was organised by their employers. We identified four themes of expectations which were labelled as (a) safe and supportive work environment, (b) enjoy and team bonding, (c) social impact, and (d) skilled volunteering.

Safe and supportive work environment

Foodbank operations were successful in meeting and at times exceeding corporate volunteer expectations related to safety and supportiveness during volunteering. For instance, all corporate volunteers perceived Foodbank as a physically and emotionally safe and supportive place to volunteer. As mentioned before, volunteers received advanced communications regarding what to wear and what activities they would be involved in. The volunteer induction program includes a safety briefing and there is some degree of safety monitoring and guidance during the volunteering session.

...you get told what to wear, covered shoes, and all those sorts of things. You did an induction... the people at Foodbank were nice – Corporate volunteer

All participants referred to Foodbank's team being very friendly and supportive during the respective volunteering session. Therefore, as evident from the following quote, corporate volunteers felt comfortable in acknowledging their mistakes and asking for help.

... [when] I did something wrong. There's no judgement. It is, yeah, everyone just has a really nice relaxed helpful vibe, I think, because it comes back to the cause which is all about helping people, and that comes up very strongly. I get yelled at, at work if I ask these many questions – Corporate volunteer

Enjoyment and team bonding

All corporate volunteers expected volunteering sessions to be an opportunity for enjoyment, away from their day-to-day work activities. In addition, as evident from the quotes below, the majority referred to the team bonding and social/professional network expansion opportunities the corporate volunteering session has provided them.

...it's nice on a day like today where you can actually meet people from your company that you probably wouldn't spend time with normally. So, that's sort of an added bonus in getting to collaborate and work together... - Corporate volunteer

...kind of see how people work together and bring that cohesiveness back together... - Corporate volunteer

This expectation of enjoying the volunteering activity together as a team in one physical location could be a possible reason why options such as online volunteering, referred to in the quote below, were not found excite corporate volunteers as much as the traditional volunteering option.

I think during Covid we had one group of our employees do an online volunteering session, like a volunteering, a virtual cooking experience where they donated the food afterwards, that they cooked, to a local charity. That wasn't overly successful... - Corporate volunteer

Social impact

The majority of corporate volunteers viewed volunteering as an opportunity to contribute to a great cause and/or to give back to the community. At the end of each volunteering session, as a measure of impact, Foodbank's State operations communicated the contribution each team has made using the number of kilograms of food packed and/or the number of meals they contributed toward. Similar to the corporate volunteer quoted below, many corporate volunteers felt positive about the overall impact their volunteering session has had:

...You felt like you were helping...

Furthermore, we observed a new-found awareness of the gravity of food insecurity and food waste issues in Australia among corporate volunteers who participated in this study.

Skilled volunteering

Skilled volunteering is a process where volunteers utilise their professional expertise and experience for free to assist a non-profit organisation. We observed that the corporate volunteering programs offered by Foodbank's State operations were predominantly physical labour-intensive. Participating volunteers required minimal skills to successfully complete the tasks assigned to them. While the majority of volunteers enjoyed these physical activities, which were very different from their day-to-day job-related activities, a few volunteers wanted to better utilise their own skills, networks, and resources to extend their contribution to Foodbank.

3.3.4 Gaps in Expectations

Having compared the expectations and experiences of Foodbank's volunteer/corporate volunteer management/coordinating teams, participating corporates, and corporate volunteers, we could identify three key themes of unmet or conflicting expectations. We have labelled them (a) more opportunities, (b) consistency, and (c) communication.

More volunteering opportunities

The term 'more volunteering opportunities' had different meanings across different categories of participants in our study. While the Foodbank team preferred having those who were new to volunteering at Foodbank, corporates expected getting more volunteering positions allocated for their organisation. The majority of corporate volunteers also preferred repeat volunteering and therefore expected more volunteering positions allocated for their organisation. However, a few corporate volunteers used the term 'more opportunities' to refer to different types of volunteering including skilled volunteering options. Accordingly, we observed an expectation gap related to the definition of more volunteering positions among the stakeholder groups we were focusing on.

Participating corporates expected volunteering positions to be locked in advance to allow enough time to carefully plan their day-to-day operational activities. As mentioned before, the majority of participating corporates expected to plan for volunteering at the beginning of their financial/calendar year. Given the very high demand for corporate volunteering positions and the need for Foodbank's State operations to prioritize requests from those corporates with whom Foodbank has a National or State-level partnership (donating food, money, packaging/ manufacturing /transportation services), facilitating such advanced commitment was found challenging for the Foodbank team.

Foodbank's State operations must carry-out their planned activities to assist Australians in need. Therefore, the Foodbank team expected corporate volunteers to turn-up for the session as they initially committed (i.e., on the planned date; in planned numbers). If any changes happen, the Foodbank team expected corporates to communicate those changes much in advance to allow time for alternative workforce planning.

...I have a bit of an expectation that the partner will actually give [details] to me in a reasonable amount of time.

– Volunteer coordinator

While predominantly considering corporate volunteering as a service participating corporates offer to Foodbank's State operations, these corporates demonstrated little understanding of the consequences a sudden changes to their volunteering session would have on delivering much needed food relief across the country.

Consistency

As mentioned earlier, due to the federated nature of Foodbank operations, we observed a very high level of inconsistencies between State operations. For instance, those State operations with more advanced corporate

volunteering programs (e.g., WA and VIC) (a) had a designated person to coordinate/manager their corporate programs, (b) offered multiple types of volunteering options beyond picking and packing in warehouses (e.g., opportunity to meet with food recipients servicing a mobile market or a community kitchen) and (c) charged the corporates for volunteering, unless the respective corporates were National or State level partners. These inconsistencies were found to challenge participating corporates who were volunteering in multiple States. While there was understanding that each State would have some level of differences, consistency in at least key processes such as securing placements, communication, health, and safety were expected.

Communication

The participating corporates expected consistent and prompt communication from the Foodbank team, particularly during the session booking stage. Given the inconsistencies across State operations, a few corporates highlighted the possibility of having one person at National (i.e., Foodbank Australia head office) level to coordinate with respective State operations (see the quote below). Such service is currently available only for National level corporate partners, but not for other corporates.

I do wonder if there is the opportunity for somebody to kind of, you know, specifically managing across states just to maybe get more people to be able to help - Coordinator from participating corporate

However, as mentioned earlier, communications between Foodbank teams and corporate volunteers were found to be effective and consistent (a) immediately before the volunteering session, (b) during the session, and (c) immediately after the volunteering session.

4. Discussion

This project aimed at enhancing Foodbank's stakeholder engagement with a view to improve Foodbanks capacity to assist more Australians in need and reduce food waste in Australia. In this process, we focused on addressing four research questions aimed at enhancing the engagement of two groups of stakeholders (a) food recipients, and (b) corporate volunteers. The following section discusses our findings in the light of our research questions and presents recommendations.

4.1 RQ1 – Nature of food insecurity in Australia

A key objective of Study One – Phase One was to gain an understanding of the nature of food insecurity in Australia. As presented in Figure 2, the annual Hunger survey and subsequent publication of Hunger Reports provided useful insights into food insecurity in Australia. A detailed look at food insecure Australians, presented in Figure 3, suggests

that the proportion of Australians in 'sever food insecurity' is again on the rise, despite considerable drops in 2021 (after COVID-19 pandemic). This further highlights the need for enhancing the capacity of food relief organisations.

Since 2022, annual Hunger surveys have adapted United States Department of Agriculture (USDA) Household Food Security Survey Module (see Appendix B1), which is the internationally recognised measure food insecurity. This has advanced the validity, reliability, and accuracy of capturing food insecurity and therefore, we recommend continued use of this measure in forthcoming annual Hunger surveys. Furthermore, regular, and consistent measurement of food insecurity (through the annual Hunger surveys) allows making appropriate adjustments to existing food relief policy and practices and/or developing new initiatives.

4.2 RQ2 – Characteristics of food insecure Australians

In addition to providing useful insights into food insecurity, the annual Hunger survey captured socio economic characteristics of food insecure Australians (see Table 3), contributors and consequences of food insecurity, and barriers for seeking food relief. This assisted understanding the profile of food insecure Australians to develop targeted food relief interventions.

However, the items and categories captured in annual Hunger surveys were changed across years. For instance, as presented in Appendix B3, age categories changed across years. Some focus areas such as the location of respondents (rural/metro), their indigenous status, migrant status (if they were migrants or not), were not available in some annual surveys. These inconsistencies make cross year comparisons a challenge. In the context of the above, we recommend:

Recommendation 1 - Use of recognised and consistent measurement scales in the annual Hunger survey to improve the validity, reliability, and comparability of data.

The annual Hunger Reports uses percentage values to provide a simple, easily understandable information about food insecurity and food insecure Australians. However, using the example of food insecurity among males and females, we highlighted the limitations of relying only on percentage values. Given that the representative sample of respondents in the annual Hunger surveys has more females than males (to be similar in representation with the general population), relating only percentage differences in food insecurity can be misleading. Therefore, we recommend,

Recommendation 2 - Supplement percentage data with advanced statistical analysis to draw meaningful and accurate interpretations.

4.3 RQ3 – Meaningfully segmenting food insecure Australians

Despite the increase in food insecure Australians, the proportion of Australians seeking food relief is declining. This discrepancy underscores the need for food relief organisations to improve their strategies to attract more Australian in need. Driven by previous research (e.g., Pearson and Amarakoon, 2019), which suggests development of targeted interventions to promote behavioural change, Study One – Phase Two focused on meaningfully segmenting food insecure Australians. Combining barriers to seeking food relief with socio-economic characteristics, we identified five meaningful segments of food insecure Australians, namely, *'Trusted friends'*, *'Young & employed'*, *'Embarrassed boomers'*, *'Unaware'* and *'Not satisfied'*. This segmentation served as a useful guide for developing targeted, personalized, and efficient interventions that address the specific needs and circumstances of different segments. Therefore, we recommend:

Recommendation 3 - Develop targeted interventions to reach out to food insecure Australians who are currently not seeking assistance.

We have taken the liberty to propose examples of targeted interventions below that could be implemented (if not already been done so) for each segment of food insecure Australians.

Trusted friends – Those belonging to this segment are more likely to study full-time and living with friends/family or looking for accommodation by the time they completed the survey. The raising cost-of-living and precarious housing situations seem to have escalated food insecurity among those in this segment. The customized intervention might include establishing partnerships with educational institutions (e.g., universities, colleges, TAFEs) to provide targeted relief options for full-time students. Specific examples in the short run include setting-up food pantries or distribution centres on campuses, collaborating with student support services to identify and assist students in need, and promoting awareness of these resources through student networks and communication channels (Bruening, et. al., 2018). Efforts to improve food and financial literacy to better manage their food and financial requirements would benefit in the long run (Bruening, et. al., 2017). Educational institutions should also take initiatives to make healthy and affordable food available on their premises.

Young & employed – Those in this segment are more likely to believe that others need assistance more than self, and be young (≤ 24), in middle to high income group, and in full-time work. Therefore *'inadequate access to food'* is likely to be the key contributor for insecurity in this segment (Burns, 2004). Customized interventions therefore might focus on (a) creating awareness, and (b) making food available for collection beyond traditional working hours. Interventions to increase awareness might include developing messaging campaigns that address the perception that others need help more and emphasize deservingness. Specific examples include creating social media campaigns, posters, or advertisements that highlight the importance of self-care and well-being, emphasizing that seeking food relief is a valid and necessary step to ensure personal stability and growth. More importantly, food relief organisations making available an online *'self-check list'*, consisting of three to five questions to self-assess whether they are eligible for food relief,

would remove this mental obstacle. Given that the majority of those in this segment work full-time and their preference for online booking of food relief, a collaboration with local supermarkets to provide a '*click and collect*' type food relief option would also be a feasible option.

Embarrassed boomers – This segment is more likely to have individuals who are embarrassed/ashamed to reach out to food relief organisations, older (55-74), and involved in home duties. Customized intervention might focus on (a) reducing stigma associated with seeking food relief, and (b) making food relief accessible closer to their location. Specific examples include (i) designing food relief programs and services that prioritize dignity and choice for individuals seeking assistance, including boomers, (ii) offering a variety of options, such as community food hubs, where individuals can access food in a respectful and empowering manner, (iii) providing opportunities for individuals to volunteer or contribute to the community, allowing them to maintain a sense of agency and purpose, and (iv) collaborating with local organisations, such as community centres, senior centres, and healthcare providers, to integrate food relief services into their existing programs. This collaboration can help normalize the act of seeking assistance and reduce the stigma associated with it. By integrating food relief with other support services, individuals, including boomers, may feel more comfortable accessing help within familiar and trusted environments without having to travel too far.

In addition, it might also be helpful to establish peer support networks where individuals who have experienced food insecurity, including boomers, can connect with and support each other. Peer support can help reduce feelings of embarrassment or shame by creating a safe space for sharing experiences and providing mutual encouragement. Peer mentors who have successfully transitioned out of food insecurity can also serve as role models, inspiring others to seek assistance without stigma. Food relief organisations/charities collaborating with influencers such as community leaders, public figures, and celebrities (including internet celebrities), to endorse and support food relief can help shift public perceptions and reduce stigma associated with seeking assistance.

Unaware – Those belonging to this segment are more likely to be unaware of nearby food relief availability, and be in middle-aged group (40-54), low-income group, not employed and on a disability/carer income. Customized intervention might include improving awareness of nearby food relief services (e.g., including AskLzzy type online portals), and developing targeted awareness campaigns using various channels such as local community newsletters, social media platforms, and community bulletin boards. Also, collaborating with community organisations, schools, and local government to distribute informational materials and organize community events that promote awareness of available food relief options.

Not satisfied – Those in this segment are more likely to believe that food provided does not suit their needs, and be living in non-private dwellings (i.e., communal type accommodation). They could either have limited food literacy and therefore not aware how to prepare meals with the ingredients provided to them or limited opportunity to prepare meals due to the type of living arrangements they have and therefore prefer precooked meals (Burns, 2004). Targeted interventions to address food insecurity in this segment would involve organising regular meetings or focus groups

where residents in communal accommodations can provide input on the types of food they would like to receive. In addition, these meeting/gatherings can be used as an opportunity to create awareness of different types of meal preparation through a cooking session in which participants cook collectively and share a meal. These collaborative approaches would also foster a sense of ownership and engagement.

Furthermore, by collaborating with local community organisations, food relief organisations can expand the understanding and availability of range of food options available to cater to recipients from diverse cultural backgrounds, traditions, and dietary practices. These partnerships can also provide opportunities for individuals food recipients to access additional resources and support beyond food relief.

While the suggested interventions for each segment aim to address their specific barriers, it is important to acknowledge limitations that may arise in their implementation. These limitations could include resource constraints (i.e., funding or staffing limitations), logistical challenges, or difficulties in accessing/reaching-out certain segments. Additionally, some interventions may have already been implemented without our knowledge, making it necessary to assess their effectiveness and identify areas for improvement. To ensure a comprehensive and inclusive approach, it is crucial to invite more relevant stakeholders, including individuals from the identified segments, community organisations, experts, and local authorities, to join the conversation. Their insights and perspectives can contribute to a more holistic understanding of the challenges and help development of innovative solutions. By fostering collaboration across a diverse range of stakeholders, we can collectively work toward enhancing the capacity and effectiveness of food relief efforts and assist all Australian in need of food relief.

4.4 RQ4 – Enhancing engagement of corporate volunteers

With the objective of enhancing the engagement of corporate volunteers, Study Two focused on developing a holistic understanding of the expectations and experiences of key stakeholders in Foodbank's corporate volunteer program. Our findings revealed three key gaps in expectations and opportunities to enhance engagement through improved (a) volunteering opportunities, (b) consistency across State operations, and (c) communication. Drawing from Turner and others (2012) model of achieving collective impact for shared success, we provide recommendations for bridging expectation gaps and enhancing stakeholder engagement.

More volunteering opportunities - We highlighted that the term 'more volunteering opportunities' was interpreted differently by different stakeholder groups. While participating corporates may refer to an increase in the number of volunteering positions, corporate volunteers may refer to different types of engagement opportunities, and the Foodbank team may refer to attracting more corporate volunteers who are new to volunteering at Foodbank. To address this expectation gap, we draw on the *shared vision for success* condition proposed by Turner and others (2012). Creating a shared vision requires related stakeholders to develop a common understanding of the problem and a joint approach

for developing solutions. In the context of Foodbank, developing a shared vision may involve ongoing discussions and collaborations with related stakeholders including Foodbank's State operations, participating corporates, and corporate volunteers.

Corporate volunteering itself is a great strategy for volunteers and Foodbank to develop shared understanding. During the induction session, Foodbank can communicate the gravity of the hunger and food insecurity issue in Australia to raise consciousness of volunteers. The social psychology literature suggests consciousness-raising as an important first step for mobilizing and inclining individuals toward social activism (Klandermans, 1992; McGehee and Santos, 2005). At the wrapping up session (immediately after volunteering), in addition to communicating the impact the specific volunteering session has had in terms of kilograms of food packed and meals it contributed to, can also be used as an opportunity to show exemplary cases of corporate volunteers who have become long term partners of Foodbank. Such examples would include individuals who have become ambassadors for Foodbank collecting funds and material and playing an active role to increase awareness of the gravity of hunger issue and role of Foodbank in across their social network. It could even be formal ambassador programs for participating corporate volunteers to advocate for Foodbank's mission through their networks and social media, amplifying awareness raising. Furthermore, through the implementation of a structured mechanism to capture volunteer feedback and ideas for improvement post-volunteering would assist Foodbank to understand corporate volunteer expectations. Corporate volunteer feedback can be used to enhance volunteering experience and volunteers' long-term engagement with the Foodbank. Drawing on empirical evidence from previous research, we suggest experimental offerings of skilled volunteering programs by matching corporate volunteer expertise (e.g., marketing, process improvement, information and communication systems) with Foodbank needs.

Allowing opportunities to develop shared understanding with partnering corporates and Foodbank, State operations could facilitate co-creation workshops to design new corporate volunteering programs or improve existing programs to match stakeholder requirements and capabilities. This may involve Foodbank's State operations sharing knowledge and learning from each other. For instance, Foodbank VIC and WA already offer advanced corporate volunteering programs to provide more volunteering positions and variety of engagement opportunities from which other State operations can learn.

Overall based on the above discussion which reiterates the need for developing a shared vision, we advance the following recommendation:

Recommendation 4 - Co-create corporate volunteering programs with selected corporate partners to provide more volunteering opportunities for corporates and enhance their engagement with Foodbank.

Consistency – Our findings highlighted the challenges encountered by participating corporates due to inconsistencies in corporate volunteering programs and processes across Foodbank's State operations. Increasing cross-state

consistency regarding the process of securing volunteering positions, health and safety requirements, and session cancellation process would significantly enhance the engagement of participating corporates. As suggested by Turner and others (2012), implementing a uniform system would not only reduce administrative burden on Foodbank's team and participating corporates, but also enhance operational efficiencies. Accordingly, we recommend:

Recommendation 5 - Implement a nationally consistent booking system to ease administrative tasks and enhance communication between Foodbank State operations and corporates.

This system could be a user-friendly app or an online portal for participating corporates to easily check availability in real-time and book volunteering positions across all States. In order to minimize disruptions caused by last minute cancellations, the system could be set up to accept 'deposits' as a guarantee. For those State operations who do not charge for volunteering, an automatic 'refund' upon successful completion of the volunteering session could be set up. Features such as sending automatic reminders prior to the booked dates and communicating health and safety related information, could further reduce the administrative burden on the Foodbank team. The system could also be an opportunity for corporates to register individuals who have consented to participate in a given volunteering session. Such information could be used to categorize those who are new to volunteering at Foodbank from return volunteers and accordingly plan volunteering activities to provide a rich volunteering experience to each volunteer.

Communication - Consistent and open communication among stakeholders is an absolute necessity to build trust, understand mutual objectives, appreciate common motivations, and sustain momentum (Turner, et. al., 2012). While the communication between Foodbank's State operations and participating corporates was observed to be effective immediately before, during, and immediately after a corporate volunteering session, many corporates raised concerns regarding communication delays leading up to session bookings. In addition to implementing the aforementioned volunteering session system, allocating a dedicated person to coordinate the volunteering program would enhance the effectiveness of the communications process. Those State operations with advanced volunteering program already have a dedicated corporate volunteer coordinator. A corporate volunteer program coordinator could be the single point of contact participating corporates would have with Foodbank's State operations. This would not only streamline communication, but also improve response time for corporate queries during session booking phase. Therefore, we advance the following recommendation:

Recommendation 6 - Appoint a dedicated corporate volunteer coordinator in each Foodbank State operation.

It is important to acknowledge the limitations of these suggestions. For instance, developing new booking systems or standardizing policies would require substantial investment and organisational change management. There could be additional challenges or considerations not highlighted here. This project aims to start an important conversation, not provide all the answers. We welcome diverse voices to join in moving this initiative forward and collectively develop impactful and sustainable solutions.

5. Conclusion

Food insecurity is a growing concern in Australia. This collaborative research project between CQUniversity, and Foodbank Australia aimed at enhancing Foodbank's stakeholder engagement as a strategy to expand its capacity to reach more food insecure Australians. This project yielded outstanding achievements in two key focus areas. First, in an attempt to enhance the engagement of food recipients, the annual hunger survey was carried out and Hunger Reports were published (from 2020 to 2023). Annual Hunger Reports paint a concerning picture of rising food insecurity. Identification of meaningful segments of food insecure Australians, based on the Hunger Report data (from 2017 to 2022), enabled development of targeted interventions. Second, understanding expectations of volunteer managers of Foodbank's State operations, participating corporates, and corporate volunteers, revealed opportunities for strengthening engagement of stakeholder involved in Foodbank's corporate volunteer program. This project provides a strong foundation for next steps in strengthening Foodbank's vital role in creating a hunger-free Australia while reducing food waste.

6. Impact

This project aimed at improving Foodbank's capacity through enhanced engagement of its stakeholders. If our effort improves Foodbank's capacity by 0.1 percent, it will result in following impact:

More food relief - Foodbank has sourced food equivalent to 82 million meals last year. The suggested capacity increase would therefore lead to 82,000 more meals annually to Australians in need.

Reduce waste – It would stop over 20,000 kilograms of food going wasted annually.

Environmental impact - For each kilogram of food wasted, carbon dioxide (CO₂) emission is estimated at 2.5kg. This effort will save at least 50,000 kilograms of CO₂ emissions annually.

Social impact – For every kilogram of food distributed by Foodbank, the social return on investment is estimated at \$23. The suggested capacity increase would result in over \$500,000 worth additional social impact annually.

United Nations Sustainable Development Goals – This would also be a notable step forward in Australia's effort in alleviating hunger (UNSDG 2 – World free of hunger) and reducing food waste (UNSDG 12.3 – Halving per capita food waste) by 2030.

7. Acknowledgements

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- Team members from Foodbank's State operations who shared their experiences and expectations related to corporate volunteer management,
- Coordinators and volunteers from corporates who shared their experiences and expectations related to volunteering at Foodbank,
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8. References

- Burns, C. 2004. *A review of the literature describing the link between poverty, food insecurity and obesity with specific reference to Australia*, Victorian Health Promotion Foundation, Melbourne.
- Braun, V., & Clarke, V. 2006, 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, vol. 3, no. 2, pp. 77–101.
- Bruening M., Argo K., Payne-Sturges D. & Laska, M.N. 2017, 'The struggle is real: A systematic review of food insecurity on postsecondary education campuses', *Journal of the Academy of Nutrition and Dietetics*, vol. 117, pp. 1767–1791.
- Bruening M., van Woerden I., Todd M. & Laska M.N. 2018, 'Hungry to learn: The prevalence and effects of food insecurity on health behaviors and outcomes over time among a diverse sample of university freshmen', *International Journal of Behavioral Nutrition and Physical Activity*, vol. 15, no. 9, doi: [10.1186/s12966-018-0647-7](https://doi.org/10.1186/s12966-018-0647-7).
- Cundy A. B., Bardos R. P., Church A., Puschenreiter M., Friesl-Hanl W., Müller I., Neu S., Mench M., Witters N. & Vangronsveld J. 2013, 'Developing principles of sustainability and stakeholder engagement for “gentle” remediation approaches: The European context', *Journal of Environmental Management*, vol. 129, pp. 283–291.
- de Gilder, D., Schuyt, T. N. M. & Breedijk, M. 2005. Effects of an employee volunteering program on the work force: The ABN-AMRO case. *Journal of Business Ethics*, vol. 61, no. 2, pp. 143-152.
- Eisenhardt, K. M. 1989, 'Building theories from case study research', *The Academy of Management Review*, vol. 14, no. 4, pp. 532–550.
- Eisenhardt, K. M., Graebner, M.E. & Sonenshein, S. 2016, Grand challenges and inductive methods: Rigor without rigor mortis, *Academy of Management Journal*, vol. 59, no. 4, pp. 1113-1123.
- Everitt, B. 1974, *Cluster Analysis*, Heinemann, London.
- Foodbank 2023, *Hunger Report*, Foodbank Australia, North Ryde.
- Freeman R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Haberman, S. 1973, 'The Analysis of Residuals in Cross-Classified Tables', *Biometrics*, vol. 29, no. 1, pp. 205–220.
- Lumpkin G. T. & Bacq S. 2019, 'Civic wealth creation: A new view of stakeholder engagement and societal impact', *Academy of Management Perspectives*, vol. 33, pp. 383–404.
- Matthews, B. & Ross, L., 2010, *Research Methods: A Practical Guide for the Social Sciences*, Pearson Education, London.
- Noland J. & Phillips R. 2010, 'Stakeholder engagement, discourse ethics and strategic management', *International Journal of Management Reviews*, vol. 12, pp. 39–49.
- Pearson, D. & Amarakoon, U. 2019, 'Environmentally friendly social changes: Profiling individuals for household food waste reductions', *Australasian Journal of Environmental Management*, vol. 24, no. 4, pp. 311-327.
- Rodell, J. B., Breitsohl, H., Schröder, M. & Keating, D. J. 2016, 'Employee volunteering: A review and framework for future research', *Journal of Management*, vol. 42, no. 1, pp. 55-84.
- Savage G. T., Nix T. W., Whitehead C. J. & Blair J. D. 1991, 'Strategies for assessing and managing organizational stakeholders', *The Academy of Management Executive*, vol. 5, no. 2, pp. 61–75.
- Turner S., Merchant K., Kania J. & Martin E. 2012, 'Understanding the Value of Backbone Organizations in Collective Impact: Part 2', *Stanford. Social. Innovation. Review*. doi: 10.48558/x3kj-bs10.
- Yin, R., 2014, *Case Study Research: Design and Methods* (5th ed), Thousand Oak, Sage, CA.

APPENDIX A – Project Summary

Enhancing Foodbank’s Stakeholder Engagement Project

KEY POINTS

- Understanding stakeholder requirements and expectations is instrumental in enhancing their engagement,
- Meaningfully segmenting food insecure Australians facilitates development of targeted interventions and thereby reach-out to more Australians in need,
- Co-creating corporate volunteering programs would enhance engagement of corporates and volunteers,
- Corporate volunteers can not only bring more labour, but also donations (monetary and/or material), raise awareness of the food insecurity and food waste issues, and long-term value and impact to all parties involved.

THE CHALLENGE

Food insecurity is a growing concern in Australia. 3.7 million households have experienced food insecurity during the 12-month period leading to July 2023. Yet, 7.6 million tons of food is wasted annually and 70 percent of which is perfectly edible. Food rescue organisations like Foodbank Australia, collect and redistributes food that would otherwise go wasted. In 2023 alone, Foodbank has sourced food equivalent to 82 million meals. Yet, such effort currently satisfies only 60% of those needing food relief. This unmet demand is not due to a shortage of food, but capacity limitations of food rescue organisations.

THE OPPORTUNITY

Enhancing stakeholder engagement is a proven strategy for improving organisational capacity. This project focused on two stakeholder groups with great potential to enhance their engagement with Foodbank:

(a) food recipients - despite the rise in food insecurity, the proportion of those seeking food relief has gone down, and

(b) corporate volunteers – whose demand for volunteering is higher than the volunteering positions Foodbank’s State operations can provide.

OUR RESEARCH

This project involved two studies. Study One, focusing on food recipients, carried out annual surveys to understand the nature of food insecurity in Australia, characteristics of food insecure Australians. Follow-up phone interviews were carried out with food insecure Australians to capture their lived experiences. These data contributed to the preparation of annual Hunger Reports (from 2020 to 2023). Given the limitation in focusing only on percentage values to draw accurate interpretations, we carried out complex statistical analysis on data spanning from 2017 to 2022 to identify meaningful segments of food insecure Australians. Study Two, aimed at understanding stakeholder expectations, utilised a qualitative exploratory method to gather data from volunteer managers, coordinators of participating corporates, corporate volunteers, and various secondary sources across Foodbank’s State operations.

OUTCOMES

- Providing an easily understandable, yet detailed understanding of food insecurity and food insecure Australians, published four annual Hunger Reports (2020 – 2023),
- Integrating barriers for seeking food relief with socio-economic characteristics, meaningful segments of food insecure Australians were identified and targeted interventions were proposed (see Table 1 for interventions for five segments identified for 2022), and
- Providing a deeper understanding of expectation gaps between volunteer managers, participation corporates,

and corporate volunteers, multiple strategic and operational action for enhancing engagement are recommended.

Clusters	Interventions
Trusted friends	Partnering with Universities, TAFEs, and colleges
Young and employed	Social media campaigns to raise awareness Click and collect type after-hours service
Embarrassed boomers	Campaigns to reduce stigma associated with seeking relief Partnering with local community organisations
Unaware	Partnering with local community organisations Expanding mobile food relief services
Not satisfied	Enhance knowledge on food preparation Better understanding of food recipients' needs

Table 1. Targeted Interventions

IMPACT

If outcomes of this project contribute to 0.1 percent increase in Foodbank’s capacity, that would result in,

- 82,000 more meals annually to Australians in need,
- rescuing over 20,000kg of food annually,
- estimated annual social return on investment of around \$500,000, and
- progress toward UN Sustainable Development Goals (2 – World free of hunger and 12.3 – Halving per capita food waste).

NEXT STEPS

Immediate next step is to carry out the Hunger survey 2024 and publish Hunger Report 2024, the process of which is funded by this project. The project team is available and willingly to work closely with Foodbank’s State operations to support implementation of following recommendations and measure their success.

- Use of recognised and consistent measurement scales in the annual Hunger survey to improve the validity, reliability, and comparability of data.

- Supplement percentage data with advanced statistical analysis to draw meaningful and accurate interpretations.
- Develop targeted interventions to reach out to food insecure Australians who are currently not seeking assistance.
- Co-create corporate volunteering programs with selected corporate partners to provide more volunteering opportunities for corporates and enhance their engagement with Foodbank.
- Appoint a dedicated corporate volunteer coordinator in each Foodbank state operation.
- Implement a nationally consistent booking system to ease administrative tasks and enhance communication between Foodbank State operations and corporates.

PROJECT TEAM

- Upamali Amarakoon - End Food Waste CRC , CQUniversity, Australia
- Sarah Pennell - Foodbank, Australia
- Khouloud Kamalmaz - End Food Waste CRC , CQUniversity, Australia
- Susan Bird - Charles Darwin University, Australia
- Xiaoyan Liang - Xi’an Jiaotong-Liverpool University, China
- David Pearson - End Food Waste CRC , CQUniversity, Australia

PROJECT REPORTS/PUBLICATIONS

Published

- Amarakoon, U, Brownlow, L, Bird, S, & Liang, X, 2021, *Consequences of food insecurity on Australians*, Poster, Fight Food Waste Corporative Research Centre, Adelaide.
- Amarakoon, U, Brownlow, L, Bird, S, & Liang, X, 2021, *Food insecurity amongst indigenous Australians*, Poster, Fight Food Waste Corporative Research Centre, Adelaide.
- Amarakoon, U, Brownlow, L, Bird, S, & Liang, X, 2021, *Food insecurity amongst migrant Australians*, Poster, Fight Food Waste Corporative Research Centre, Adelaide.

Coskun, A & Amarakoon, U 2022, 'Who goes hungry in Australia: Profiling food insecure individuals during COVID-19', *Proceedings of the Australia & New Zealand Marketing Academy Conference*, Perth Australia, pp. 609 – 612.

Kamalmaz, K, Amarakoon, U, Bird, S, & Liang, X, 2022, 'The process or people? Overcoming the challenges of food waste and insecurity in a wide brown land', *Proceedings of 35th ANZAM Conference*, Gold Coast, Australia, pp. 1355-1355.

Foodbank 2020, *Hunger Report 2020*. Foodbank Australia, North Ryde.

Foodbank 2021, *Hunger Report 2021*. Foodbank Australia, North Ryde.

Foodbank 2022, *Hunger Report 2022*. Foodbank Australia, North Ryde.

Foodbank 2023, *Hunger Report 2023*. Foodbank Australia, North Ryde.

Submitted and under review

Kamalmaz, K, Amarakoon, U, Bird, S & Liang, X, 2023, 'Stakeholder engagement in non-profits: Review and way forward', *Nonprofit Management and Leadership Journal*.

Kamalmaz, K, Amarakoon, U, Bird, S & Liang, X, 2023, 'The process of people? Overcoming the challenges of food waste and insecurity in Australia', *Nonprofit Management and Leadership Journal*

PROJECT WEBPAGE

<https://endfoodwaste.com.au/projects/enhancing-foodbanks-stakeholder-engagement/>

APPENDIX B – Supporting Material(s)

Appendix B1 – Survey questions adapted from United States Department of Agriculture (USDA) Household Food Security Survey Module (HFSSM)

Referenced household members	Indicators	Food insecurity affirmation
Anyone in the household	Agree with the statement that they “worried whether my/our food would run out before I/we got money to buy more”	Sometimes true/ often true
	Agree with the statement that “the food that I/we bought just didn’t last, and I/we didn’t have money to get more”	Sometimes true/ often true
	Agree with the statement that “I/we couldn’t afford to eat balanced meals”	Sometimes true/ often true
Any adult(s) in the household	The respondent, or any other adult in their household, have had experience ever cutting the size of meals or skip meals because there wasn’t enough money for food in the last 12 months	Self-reported “yes”
	The frequency of experience cutting the size of meals/ skipping meals because there wasn’t enough money for those who did undergo such situation in the last 12 months	Experience happened more often than ‘only 1 or 2 months’
The adult respondent themselves	Experience in the last 12 months of ever eating less than they felt they should because there wasn’t enough money for food	Self-reported “yes”
	Experience in the last 12 months of ever being hungry but did not eat because there wasn’t enough money for food	Self-reported “yes”
	Experience in the last 12 months of ever losing weight because there wasn’t enough money for food	Self-reported “yes”
Any adult(s) in the household	The respondent, or any other adult in their household, have had experience ever not eating for a whole day because there wasn’t enough money for food	Self-reported “yes”
	The frequency of experience not eating for a whole day because there wasn’t enough money for food, for those who did undergo such situation in the last 12 months	Experience happened more often than ‘only 1 or 2 months’
Any children in the household (for households with children)	Agree with the statement that they “relied on only a few kinds of low- cost food to feed the child/ren because of running out of money to buy food”	Sometimes true/ often true
	Agree with the statement that they “couldn’t feed the child/ren a balanced meal, because I/we couldn’t afford that”	Sometimes true/ often true
	Agree with the statement that their child/ren “were not eating enough because I/we just couldn’t afford enough food”	Sometimes true/ often true
	Experience of the respondent ever cutting the size of their child/ren’s meals because there wasn’t enough money for food in the last 12 months	Self-reported “yes”
	Experience of the child/ren ever skipping meals because there wasn’t enough money for food in the last 12 months	Self-reported “yes”
	The frequency of the child/ren’s experience ever skipping meals because there wasn’t enough money for food for those who did in the last 12 months	Experience happened more often than ‘only 1 or 2 months’
	Experience of the child/ren ever being hungry in the last 12 months because the respondent “just couldn’t afford more food”	Self-reported “yes”

Appendix B2 – Categories of Food Insecure Australians

- *Severely food insecure*
 - At times during the year, eating patterns of one or more household member(s) disrupted and food intake reduced due to lack of money or other resources for food;
 - Going hungry and did not eat (including children) because there was not enough money for food or not eating for a whole day because of not enough money;
 - Household members lost weight because they could not afford enough food.
- *Moderately food insecure*
 - Household reduced the quality, variety, and desirability of their diets, but the quantity of food intake and normal eating patterns were not substantially disrupted;
 - The food they bought would not last and they were unable to afford more;
 - Cut the size of meal/s for household (including children).
- *Marginally food secure*
 - Households had problems at times, or anxiety about accessing adequate food, but the quality, variety, and quantity of their food was not substantially reduced;
 - Somehow worry about whether food would run out before getting money to buy more;
 - Occasionally could not afford to eat balanced meals.
- *Highly food secure*
 - Household had no indicator of problems or anxiety about consistently accessing adequate food.

Appendix B3 – Age Distributions

Table B3.1 – Age distribution for 2017

Categories	Number	%
Age 18-22	39	7.6
Age 23-37	155	30.3
Age 38-52	140	27.4
Age 53-71	146	28.6
Age 72+	31	6.1

Table B3.3 – Age distribution for 2019

Categories	Number	%
Age 18-24	135	13.3
Age 25-39	387	38.1
Age 40-54	256	25.2
Age 55-73	214	21
Age 74+	25	2.5

Table B3.2 Age distribution for 2018

Categories	Number	%
Age 18-24	88	11.5
Age 25-34	172	22.4
Age 35-44	155	20.2
Age 45-54	142	18.5
Age 55-64	134	17.5
Age 65-74	65	8.5
Age 75-84	9	1.2
Age 85+	2	0.3

Table B3.4 – Age distribution for 2020

Categories	Number	%
Age 16-20	29	2.9
Age 21-24	57	5.7
Age 25-34	267	26.7
Age 34-44	297	29.7
Age 45-54	169	16.9
Age 55-64	106	10.6
Age 65+	76	7.6

Appendix B4 - ANOVA of Barriers for Seeking Food Relief

Barriers for Seeking Food Relief	Cluster		F	Sig.
	Mean Square	df		
Hard to travel to pick up food relief	6.183	4	39.508	<.001
Too embarrassed/ashamed	43.414	4	1937.159	<.001
The food provided doesn't suit the needs	3.752	4	27.819	<.001
Prefer to ask for help from friends and family	21.024	4	315.284	<.001
Don't know about services nearby	19.409	4	284.277	<.001
Others are in greater need of assistance	4.924	4	28.458	<.001

Appendix B5 - Cluster Profile Development

	Cluster 1		Cluster 2		Cluster 3		Cluster 4		Cluster 5		Significance
	%	SR	%	SR	%	SR	%	SR	%	SR	
Age											< .001
<=24	26.4		28.8	2.7	14.9	-2.2	13.7		15.1		
25-39	50.9		42.4		38.9		32.4		43.4		
40-54	18.2		20.4		28.1		35.3	2.1	30.2		
55-74	4.5	-2.1	8		16.3	2.2	17.6		11.3		
75=<	0		0.3		1.8		1		0		
Income											< .001
Low	30		34.7		47.1		62.7	3.4	39.6		
Middle to High	67.3		63.5	2	47.5		32.4	-3.1	58.5		
Prefer not to say	2.7		1.9		5.4		4.9		1.9		
Housing Status											.010
Boarding Houses/ Caravan parks	1.8		4.3		2.3		2.9		3.8		
I have no fixed address/ I am between houses	10.9	2.5	6.5		3.2		2		1.9		
I am in social/ government housing	9.1		8.7		8.1		6.9		13.2		
I occupy my home rent-free	10	2.1	7.4		3.2		1		1.9		
I own my home outright	21.8		18		17.6		13.7		17		
I own my home with a mortgage	18.2		18.6		24.4		18.6		13.2		
I rent my home	24.5	-2.1	33.7		37.6		50	2.3	47.2		
Other	0.9		1.2		2.7		2.9		1.9		
Prefer not to say	2.7		1.5		0.9		2		0		
Employment Status											< .001
Disability pension/ carer	3.6	-2	8.4		8.1		19.6	3.4	13.2		
Employed full-time	39.1		43.3	2.1	30.3		19.6	-2.8	43.4		
Employed part-time/ casual	17.3		15.2		21.7		23.5		13.2		
Full-time student	12.7	2.5	7.1		5		2.9		5.7		
Home Duties	7.3		4.6		10.9	2	5.9		9.4		
Not employed/ looking for work	7.3		7.7		7.7		14.7	2.1	7.5		
Other (please specify)	0.9		1.5		2.3		4.9		0		
Prefer not to say	0.9		1.5		1.8		2		0		
Retired/ aged pensioner	5.5		5.3		8.1		4.9		3.8		
Self-employed	5.5		5.3		4.1		2		3.8		
Living Arrangement											< .001
Couple family with dependent child/ren	45.5		37.8		38.5		21.6	-2.6	47.2		
Couple family with no children at home	6.4		9.6		11.8		7.8		7.5		
Living alone	12.7	-2.6	27.6		25.3		35.3	2	17		
Living in a group household	12.7		12.4		7.2		8.8		7.5		
Living with parents/ other relatives	15.5	2.4	7.4		6.8		10.8		5.7		
One parent family with child/ren of any age at home	7.3		5.3		9.5		15.7	2.5	11.3		
Others	0		0		0.9		0		1.9		
Residents of a non-private dwelling	0		0		0		0		1.9	3.7	

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**For further information
please contact:**

enquiries@endfoodwaste.com.au
or visit endfoodwaste.com.au