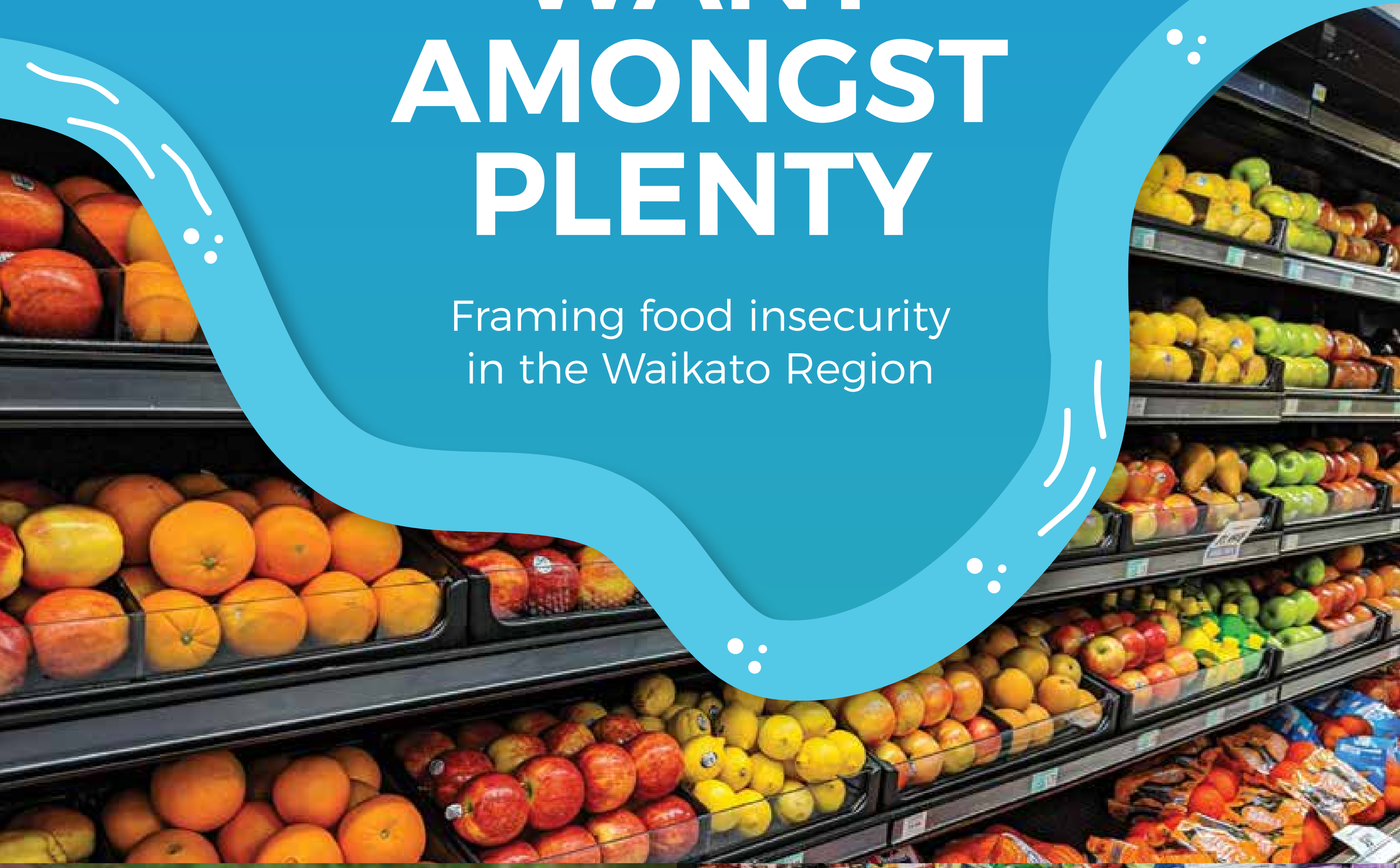
Waikato wellbeing project | Hinonga toiora o Waikato

Research . Knowledge . Storytelling

WANT AMONGST PLENTY

Framing food insecurity in the Waikato Region



StrategEase

Kelvin Norgrove and
Alan Johnson, October 2024

This research and report has been prepared with generous support and funding from the following organisations

Trust Waikato
TE PUNA O WAIKATO

Waikato
REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

WEL
ENERGY TRUST

Executive Summary

This paper was commissioned by the Waikato Wellbeing Project (WWP) as part of its Kai Challenge programme. The programme seeks to reduce the extent of food insecurity across Waikato region.

We estimate that 9-10% of Waikato households face food insecurity at least once a year and that 10-12% of Waikato children live in these households.

The main purpose of this paper is to recommend an indicator framework for food insecurity in Waikato. Such a framework can illustrate the nature and extent of food insecurity in the region and show trends over time. This information, and the insights gained, can be used to ensure that food insecurity and the underlying issue of household poverty remain part of public debate and to help shape the public policy narrative. This narrative is important for deciding what is important in public policy and so in the budgets of government and councils. The experiences of more marginalised people and communities can often be omitted from this policy narrative so policies which may benefit them are ignored or downplayed.

During the COVID-19 lockdowns an alternative narrative emerged around food and the food system. This alternative narrative focused on responses to food insecurity and advocated for radical shifts in how we produce and distribute our food. Since COVID, public interest in such alternatives has waned and we have sunk back into a business-as-usual mindset where we remain reliant on an industrialised food system with its vulnerabilities and inequities. The challenge here is to maintain public interest in alternative food systems and data helps as part of alternative storytelling.

The proposed objective for the Kai Challenge programme is:

To reduce the extent and risk of food insecurity in Waikato region and in doing so increase the agency of those at risk of limited access to healthy food and with less need for charity.

In addressing this objective, it is important to recognise that households'/whanau lived experience of food insecurity should be the primary starting point for considering the problem and potential responses. Other concerns with the food system such as regional food sovereignty or the dominance of market-based production/distribution should be viewed as secondary matters for the WWP.

Five indicators are proposed to assist the WWP to create a narrative which supports and popularises the Kai Challenge. The five indicators are as follows.

The cost of healthy diet - a survey-based indicator of the weekly price in Waikato supermarkets for a preferred shopping basket which will provide it with a healthy diet.

Food related income transfers from government - the number and value of food-related hardship grants paid to Waikato households by Ministry of Social Development (MSD).

Community based responses to food insecurity - a survey-based indicator of the volumes of food parcels distributed by food banks, the numbers of households assisted by these parcels and the value of food re-directed from the waste stream.

Income adequacy - a three-part indicator which estimates the basic living costs of various types of households, the housing costs and rents faced by these household types and existing benchmark or modest incomes likely to be received by these households. These measures are used to estimate income adequacy by household type.

At-risk households - the numbers and types of Waikato households likely to be at risk of food insecurity in any one year and the numbers of children likely to be part of these households.

What has been called the social food network in this paper offers a localised community-based alternative to complete reliance on an industrialised food system. This network relies on volunteers and charity and is focused on social justice and sustainability. As a network it is fragile and incomplete. More strategic leadership is required to ensure that it reaches its potential and in doing so more adequately addresses the food insecurity currently being experienced by too many Waikato households.

Table of contents

1. Project background

Food insecurity

Food insecurity, where people do not have adequate access to affordable and nutritious food, is a daily lived reality for many people in New Zealand. Its consequences include poor education and health outcomes for people of all ages. Māori are more likely to face food insecurity than non-Māori, due to differences in incomes, household size and structure, and the locations where they live.

Waikato Wellbeing Project and the Kai Challenge

The Waikato Wellbeing Project (WWP) has a target to reduce child poverty from 1 in 6 to fewer than 1% of children by 2030 and a goal that "Our children can thrive because none are hungry at school or cold at home. They can afford to participate in social, artistic, cultural and sporting activities".[1]

At present, there is no comprehensive set of reliable indicators identified to track progress towards this goal. The WWP commissioned this report to provide a review of food insecurity measures and indicators, with a specific interest in data at a regional or sub-regional level.

Building an indicators framework for the Kai Challenge

The primary purpose of this report is to outline specific indicators for monitoring the extent of food poverty in the Waikato region (the demand side) and the extent of food support being provided by various agencies or community groups (the supply side). Due to most of the available indicators and data on food insecurity being at a national level, the proposed set of regional indicators utilise available national data (e.g., Statistics NZ, MSD, MBIE, Household Economic Survey, deprivation data) combined with local data on food bank usage and supermarket prices for a basic basket of food. The set of indicators collectively provides a comprehensive (albeit approximate) view of the scale of demand and supply of kai support in the region by capturing:

- the cost of a preferred but basic food basket,
- the ability of households/whanau to pay for healthy kai,
- the size of the at-risk population over time, and
- the scale of support provided by food banks, MSD food hardship grants and other initiatives;

All indicators are able to be replicated and monitored over time by the WWP.

Our approach

We applied a mixed method approach comprising:

1. a rapid literature review of food systems conceptual models,
2. definition of a primary objective and guiding principles for the WWP Kai Challenge project,
3. analysis of official data on the regional food sector, household expenditure, household type, deprivation, incomes and rents,
4. mapping of kai support hubs,
5. survey of 25 foodbanks,
6. engagement with the largest kai support agencies and the WWP Manu Taki steering group.

[1] Refer https://www.waikatowellbeingproject.co.nz/detailed-targets/

2: Context

The food system in Waikato

Waikato's economy is typically described as an agricultural powerhouse with growing strengths in manufacturing, freight and logistics due to its location as part of the golden triangle connecting Hamilton, Auckland and Tauranga. Waikato's food system comprises all activities associated with producing, distributing and consuming food within the region – including growing, harvesting, processing, packaging, transporting, marketing, and retailing. The majority of such activities occur through private sector 'market-based' transactions and their value is conventionally measured in monetary terms of industry sector value-added Gross Domestic Product (GDP) which incorporates the value of goods and services produced, consumed and exported from the region while excluding the value of food products imported into the region. In simple terms the Waikato food system generates wealth, income and jobs for the region but at the same time, some households face food insecurity.

The food system also includes non-market activities such as hunting and fishing and gardening, hapu and community gardens/kitchens, school meal programmes and social enterprise/not for profit organisations food support operations. Any exchange of such goods within community or kinship-based networks are focused on mutual support and generosity rather than monetary transactions. Overlaps between market and non-market activities do exist and while such non-market activities help to alleviate food insecurity they will not tend to be captured in standard economic measures.

In high level GDP terms, the Waikato region's total food sector GDP is estimated to be at least $4,721 million or over 14% of total regional GDP in 2023[2]. As shown in Figure 1 primary food production industries (i.e. agriculture, horticulture, fishing) account for a majority of food sector GDP (almost 67%) and 9.6% of total regional GDP. Manufacturing industries account for 22% of food sector GDP and retail trade (i.e. supermarkets and other food stores) accounts for the remaining 11% of food sector GDP.

The Waikato region is nationally significant for primary production activities, accounting for 13% of New Zealand's exports of goods and services, well above its share of national GDP[3]. In 2018 Waikato dairy farms accounted for a significant 28% of New Zealand's total land area in such use and arable crops and produce accounted for 16.6% of the national area in such use.

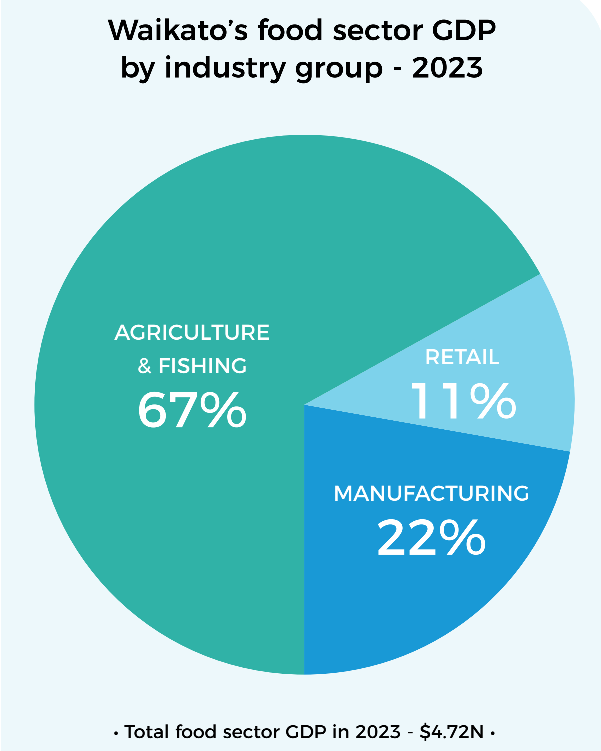


Figure 1. *Waikato Food Sector GDP*

Over the 2000-18 period the primary production sector has actually been fairly static overall: total primary industry GDP was the same in 2018 as it was in 2000 ($3,922 million) albeit with higher productivity reflected in there being less 'on-farm' employment of 22,484 jobs in 2018 compared to 24,300 jobs in 2000. Dairy, red meat & pork, seafood and produce experienced negative to negligible growth while arable crops, poultry and 'other foods' experienced positive growth. By contrast, manufacturing/food processing industries experienced growth accounting for 9,115 jobs in 2018, 3,644 more than in 2000. High growth rates were achieved in dairy processing, poultry, produce, processed foods and other beverages[4].

[2] Infometrics 2023 https://rep.infometrics.co.nz/waikato-region

[3] Refer: The economy of the Waikato region in 2022 Prepared by: Blair Keenan, Sarah Mackay and Upananda Paragahawewa for: Waikato Regional Council February 2023.

[4] Refer: Coriolis 2019 Regional growth outcomes: in employment in the NZ Food & Beverage Industry.

Household spending on food in Waikato region

Statistics NZ survey-based data suggests average household weekly expenditure on food (e.g. groceries, restaurants etc.) in the region was $273.7 in 2023, 8.6% below the national average $299.50[5]. Applying that average to the estimated total number of households in the region (187,273 in 2023), implies a weekly spend on food of around $51 million.

Average spend by household type is only available nationally. Unsurprisingly 'one-person' households spend the least on food as well as on the next two 'highest cost' items of housing & utilities, and transport. Such households spend $132 per week on food and twice as much on housing & utilities ($263) and a further $108 on transport. At the other end of the spectrum, households with 'couples with 3+ children' or 'more than one couple with children' tend to spend the most on all three items, totalling close to $1,300 per week.

Households with relatively low incomes will obviously tend to be spending below the average for their household type. For example, a household on a net annual income of $50,000 would spend 53% of that if they spent on food at the average $273 per week in Waikato. The national figures by household type at least provide a basis for considering the extent to which low-income households of the same types in the Waikato may be 'at-risk' of food poverty – i.e. unable to afford to spend on food anywhere close to the average (as addressed in section 5 of this report).

Average household spending on highest cost items - 2023[6]

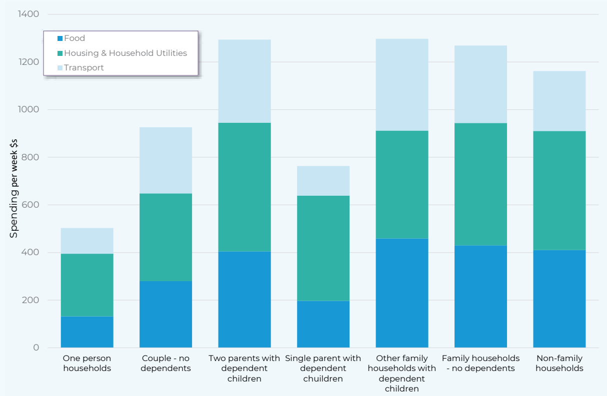


Figure 2. *Household Spending, 2023*

Recent thinking around responses to food insecurity across Aotearoa

Food insecurity in Aotearoa has been addressed in several recent reports that offer a range of perspectives on defining the problem and recommending responses. The scope of this report is limited to establishing baseline information on the food insecurity issue in the Waikato region but a few such reports are referred to below on the assumption that the WWP will need to consider options for responding to the food insecurity issue as a next stage in the Kai Challenge project.

Points in common between the reports are:

1. The need to consider food security as encompassing dimensions of equity, health and sustainability and which are not captured in standard economic measures of the food system (e.g. value-added GDP, employment, productive potential of rural land etc.);
2. A policy response grounded in economic concepts of efficiency and consumer sovereignty will easily lead to a narrow focus on addressing food access and affordability by relying on incentivising investment in technology or capital intensity to improve productivity, encouraging greater competition, or reducing regulation;
3. In answer to the supermarket duopoly and duopsony in Aotearoa, more efforts are needed to encourage entry into the food and grocery market by small-scale operators – whether through commercial, social enterprise or partnership solutions (e.g. providing support for iwi and community-led food retailers; distribution or technology mechanisms to directly connect growers/producers to consumers or smaller retailers; provide indoor/outdoor market sites to accommodate small-scale producers).
4. Charitable responses of food banks, social supermarkets and school lunches are short term solutions to food poverty and diverting food waste, but more fundamental changes are needed to address unaffordable housing and low-paid jobs through living wages and increased benefits to meet the needs of families.

[5] Source: Statistics NZ Household Expenditure Survey (HES). Note Waikato region is included in the 'rest of North Island area'.

[6] Statistics NZ Household Economic Survey 2023

The Public Health Advisory Committee's report, Rebalancing our food system (May 2024) examines the deficiencies of how food is produced, distributed and consumed in New Zealand and the approach needed to ensure our food system supports the health and wellbeing of all New Zealanders. The report makes five broad recommendations (which are expanded into 13 detailed actions elsewhere in the report):

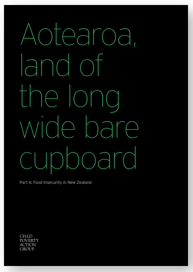
1. That those involved in shaping our food system develop a unified food system for all New Zealanders.
2. That those involved in supporting our food system enable local communities including iwi and Pacific communities to ensure that local parts of the food system meet their needs and aspirations.
3. That our central and local government take action and use legislation, policy & regulation levers to create and foster healthy food environments for all New Zealanders.
4. That those involved in our food system take action to ensure all New Zealanders have secure access to enough good food.
5. That those involved in shaping our food system ensure that the work of transforming the food system is accompanied by a programme of data collection, research, monitoring and surveillance.

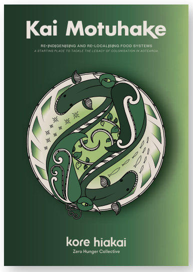
The Child Poverty Action Group. (2019) report: Aotearoa, land of the long wide bare cupboard: Food insecurity in New Zealand (Part 1) calls for a core focus on income support to alleviate poverty and in addition, a national food strategy through a whole-of government approach that applies an inter-generational horizon and puts the health and well-being of children first.

The Zero Hunger Collective report (2024) Kai Motuhake: Re-indigenising and re-localising food systems – a starting place to tackle the legacy of colonisation in Aotearoa[7] advocates for a revitalisation of Māori food sovereignty as a core part of envisioning local food systems that enable equity, agency, nutrition, and access for all. The report emphasizes the merits of local, place-based food strategies with a role for local councils, community groups and with hapū and iwi engaged and resourced from the start, that are embedded with local knowledge about kai, practices of tikanga, and biodiversity protection. It also notes that a re-indigenisation approach has shaped kai frameworks in various areas, including Te Awa Kairangi with Hutt City Council (2017), Wellington City Council (2023) and Waitakere, Auckland (2024).

The Aotearoa Circle Mana Kai initiative aims to engage industry and community groups to co-design a national food roadmap by first understanding the strengths and weaknesses inherent in our food system and then identifying solutions. The framework is anchored in Te Ao Māori and has the following priority action areas:

- Mana Kai Pou is a code that reflects the fundamental values and principles that organisations commit to giving effect within Aotearoa New Zealand's food system. A Mana Kai Pou organisation will publicly commit to playing their part in ensuring every New Zealander has access to the food they need in a way that enhances their mana and the surrounding environment.
- Establishment of a community procurement agency and network of food outlets to address ongoing food insecurity with the provision of accessible, affordable and nutritious food. This action will involve direct ownership, extension, and collaboration with New Zealand Food Network, and operate in parallel with regional and community initiatives with physical stores and food distribution centres.
- An enhanced school food and nutrition programme via a co-ordinated but customised delivery of healthy meals alongside nutrition education and food skills to schools and Kura as appropriate.





[7] The report follows on from Kore Hiakai Zero Hunger Collective. 2023. Realising Food Secure Communities in Aotearoa. https://www.zerohunger.org.nz/realising-food-secure-communities-aotearoa

The importance of data in a new narrative

The proposals discussed above offer an alternative narrative around food and the food system in Aotearoa. This narrative comes from a public health and social justice perspective and emerged at the time of the COVID-19 pandemic and lockdowns. At that time this narrative gained some traction perhaps on account of public concern around shortages in supermarkets and a focus on the apparent fragility of the supply chain and market behaviours of the supermarket duopoly. Post COVID-19 lockdowns, such narrative appears to have lost its public appeal as we have moved back to a business as usual (BAU) mindset. In our opinion this alternative narrative still has relevance but presently not a great deal of resonance with public sentiment. This perspective has guided the responses proposed below.

Narrative and narrative framing are important in public policy as they shape what is considered realistic and viable by policy makers. Significant policy change most often comes with a narrative shift – a new story to justify or explain whatever changes are proposed. In order to shift public policy around food and the food system, a deliberately alternative narrative is required. The proposals offered above are examples of the attempted narrative shift.

The brief of this project was to offer a set of data which may inform debate around food insecurity and food autonomy in Waikato region. This data can do more than just inform this debate if it is well framed and offered as part of an alternative narrative. This is one of the aims of the data framework offered below. This can occur in at least two ways.

Relevant data can provide users insights into the nature of the system to which the data relates. Data will most often inform us about some aspect of a system's performance or behaviour. Beyond this, the anomalies between data sets and the gaps or contradictions in the stories it tells can lead us to question why the system behaves as it does and what might be causes of aberrations or disruptions observed.

A second worth of data is in its collection and the relationships fostered by this collection. Data generated by participants in a system can generate a 'data community' – a group of people who are perhaps asking the same questions of the system or observing the same anomalies. If nurtured this 'data community' can be some of the people creating and promoting an alternative narrative.

Dominant narratives reflect the prevailing social and political assumptions about what is most expected, valuable, or desirable and, therefore, worthy of investment and effort. Narratives do not just reflect assumptions, however—they also reinforce them. By telling people what to care about, narratives drive assessments of good and bad, right and wrong, success and failure. Moreover, narratives influence what policies and programs are implemented by power holders.

Plough, A ed (2020) Well-Being: Expanding the Definition of Progress: Insights From Practitioners, Researchers, and Innovators, From Around the Globe. Oxford University Press

Narratives have power. Changing the narrative refers to changing the prevailing norms, beliefs and attitudes that sustain the current economic model and have resulted in a widespread tolerance of inequalities and discrimination. These dominant societal narratives act as a barrier to change as injustice is normalised, the nature of inequalities are hidden, and the solutions are branded too radical to consider.

Oxfam (2020) Take action. How to change the narrative. The Multidimensional Inequality Framework. The Oxfam Toolkit

3: Systems thinking

Mapping Waikato's food system

Systems thinking and systems maps are ways of considering the totality of a policy question. An example of this approach is offered by Goodman's model in Figure 3. A systems approach has been taken in this project although we do not purport to offer a comprehensive food system view here.

A systems approach for food encompasses the entire range of activities and participants (market and non-market) as well the property rights, and regulatory settings involved in the production, processing, distribution, consumption and waste of food products. Such an approach takes account of the current social, economic and environmental context of food production, distribution and consumption. It also highlights inter-connections and dependencies within that broad system. A systems approach to food insecurity in Waikato can assist with clarifying the respective roles of the state (local and central) and civil society and may assist with identifying opportunities for policy coordination and intervention.

While there will always be trade-offs to be made (i.e. between key priorities for fixing the food system such as poverty reduction, improved nutrition, and enhanced environmental sustainability), there should also be opportunities to simultaneously accomplish multiple objectives.

Main components of the food system

The systems map on Figure 4 shows how the food system consists of a range of market-based inputs and outputs that also generate non-market outcomes of social and environmental costs (refer left-hand side of diagram). The map also portrays how the food system operates within the wider political economy (refer central column in diagram) - which controls how rights and entitlements are allocated to producers and households (namely via central and local government agencies), refers to the significant role of philanthropic organisations in responding to the fallout from the food system (namely food poverty and waste) and has a bearing on the social licence of the dominant market producers and retailers.

Households are a critical part of the system. Their food insecurity is experienced by individuals and families/whanau, and is mainly due to the gap between their income and costs of living. The market-based food system works for the majority of households – those able to afford goods from supermarkets and other stores. Food support organistions are also part of the food system and insofar as they rely on supply or donations of food from commercial producers and retailers. However, they do of course play a critical role as an alternative source of supply for households facing food poverty.

Goodman's System Thinking Model

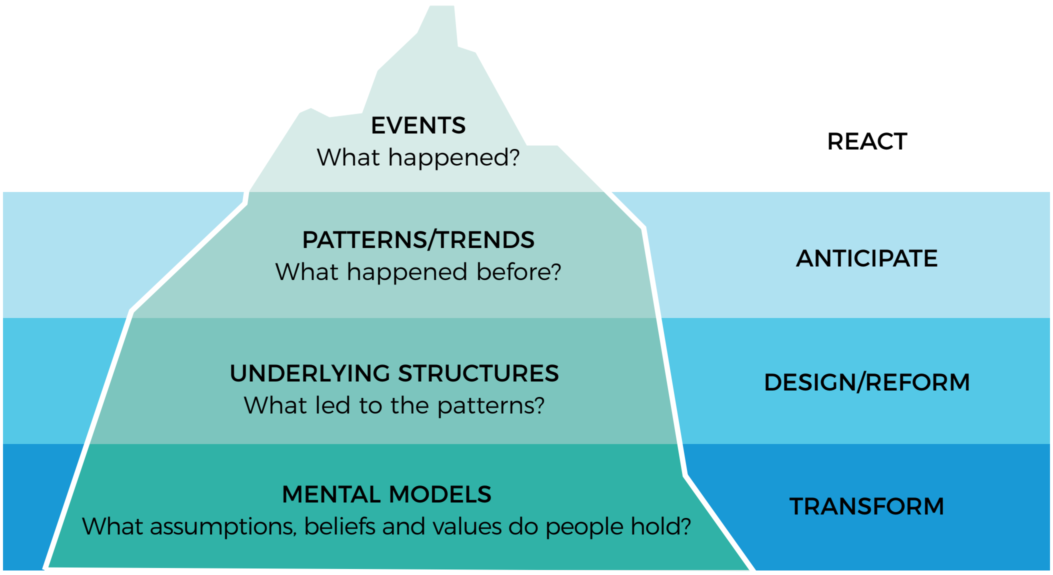


Figure 3. *The Iceberg Model (after Goodman, M (2002)*

A food systems map showing key relationships which offer scope for systemic change

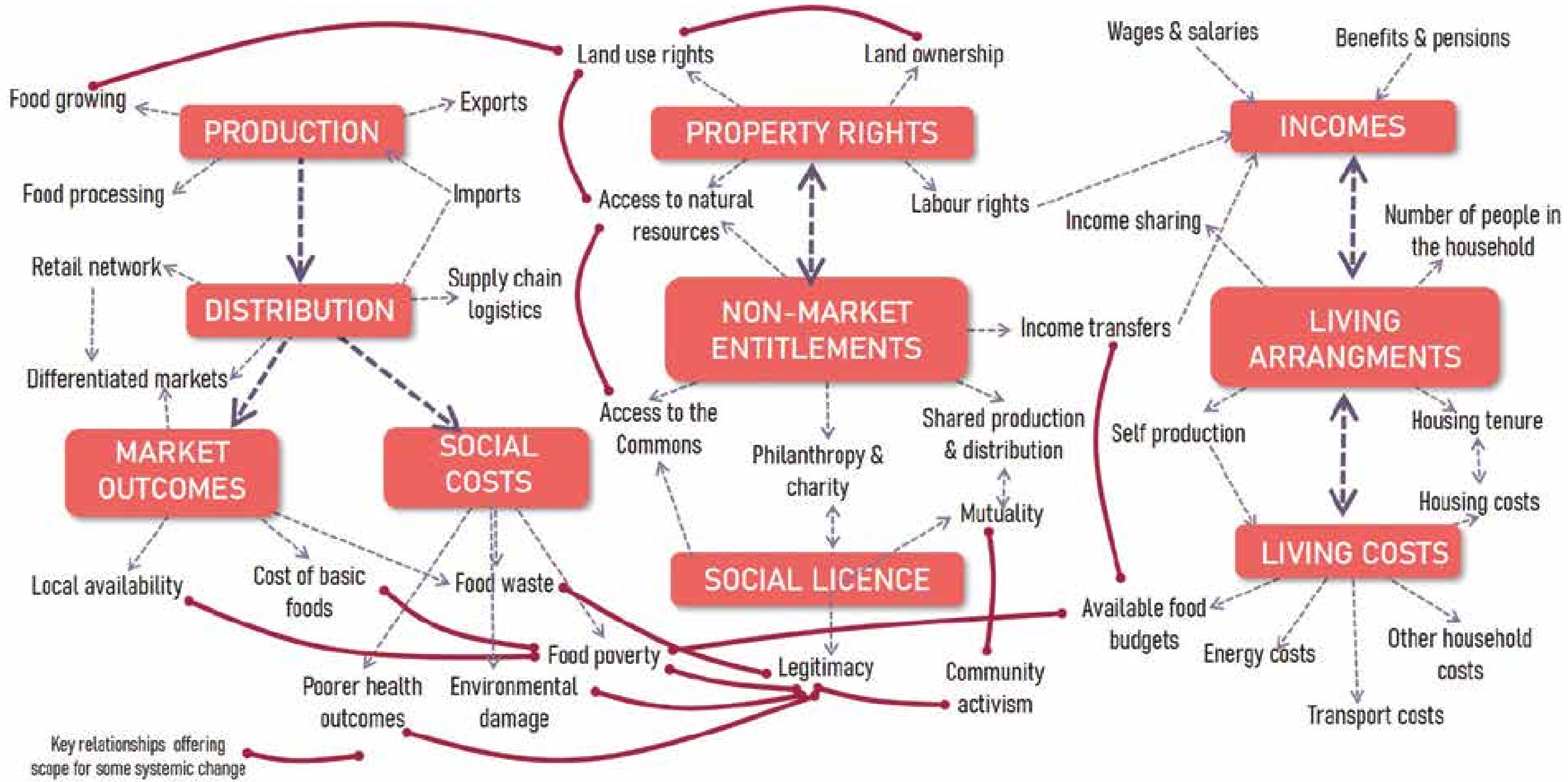


Figure 4. Food Systems Map

Data in the food system

Existing official databases reflect the interests or priorities of government agencies but are inadequate for measuring food poverty in the Waikato region – in terms of household needs going unmet as well as the scale of supply being provided through food banks etc. Establishing a baseline of food insecurity in the region requires collating data from various official data sets as well as supplementary information from food support organisations via survey or direct engagement. As elaborated on in Section 5 these data sets span information on household types, incomes and expenditure, and deprivation in the region, survey-based information from food support providers and MSD, and for establishing the cost of a basic food basket. The proposed indicators in this report rely on adapting official data sets and filling gaps where necessary and possible. The indicators are still anchored in the same framing as official data sets which regard the food insecurity problem as arising from population dependency and relative disadvantage.

Food support organisations and the social food network do not pose a direct challenge to the current market dominated food system. However, some community-based forms of supply can be characterised as a genuine alternative and potentially antagonistic to the current system – for example, social enterprises which grow their own food and distribute it according to household need rather than based on households' ability to pay. Similarly, community gardens and hapu/marae led initiatives to revitalise Māori food systems and traditional kai knowledge and practices, allow Māori and other households to access, share and produce food for their communities.

There is currently a lack of readily available data on such initiatives currently operating in the region or it is at best, incomplete.

4: Policy purpose & rationale

Project objectives and guiding principles

The following objective is proposed for the Kai Challenge Project:

"To reduce the extent and risk of food insecurity in Waikato region and in doing so increase the agency of those at risk of limited access to healthy food and with less need for charity".

The objective implies that:

1. Households/whanau lived experience of food insecurity should be the primary starting point for considering the problem and potential responses,
2. Other concerns with the food system such as regional food sovereignty or the dominance of market-based production/distribution are secondary matters for the WWP, and
3. The leadership role for encouraging the food system to promote public health sits with central government.

Core policy principles

- Systems view - a whole of system view which spans household circumstances, food production and distribution, consumption patterns and the overall political economy of food.
- Toward co-reliance - moving at-risk households from dependency to greater autonomy and/or co-reliance within their community.
- Te Ao Māori - guidance by te Ao Māori values of Ngā Nuinga, Hauora and Manaakitanga

Proposed starting positions

The five following starting positions for the project are offered as the basis of the policy rationale behind it. They are in a sense either a reality check of the challenges we face to shifting the status quo or a statement of how change may be achieved.

1. **The food system has major imbalances**

   - Our current food system is dominated by large-scale production and processes and a corporate retail duopoly which contributes to New Zealand's relatively high cost of groceries. Recent research[8] from Australia compared the prices of 44 common supermarket staples (food and non-food) and found New Zealand is the most expensive compared to Ireland, United Kingdom (UK), and Australia.
   - The system is efficient in terms of meeting the needs of most New Zealanders but production is oriented to export markets and the dominant retailers cater for the needs and wants of middle-class New Zealanders
   - It is also relevant to note that on 1 October 2024 the New Zealand Commerce Commission[9] declined the proposed merger of Foodstuffs North Island and South Island on the grounds that it would lessen competition in both wholesale and retail grocery markets and allow the company to extract lower prices from suppliers and reduce consumer choice while making it harder for other grocery retailers to compete and grow.
   - Consequently, we have want amongst plenty – food insecurity in the middle of abundance.

[8] Refer to ABS News article 30 Sept. 2024 on research from Edith Cowan University: https://www.abc.net.au/news/2024-09-30/grocery-prices-comparison-australia-and-beyond/104395632). It refers to Foodstuffs Pak'nSave and Woolworths holding 70% of the market in New Zealand (compared to Australia's Coles-Woolworths 65% share) and found that the same basket of groceries cost AUS$342-$409 in NZ, followed by Australia's AUS$324-$332), a difference of 6-23%. Ireland and the UK were significantly cheaper. When adjusting for wage levels New Zealand also remained the most expensive.

[9] Refer: https://comcom.govt.nz/news-and-media/media-releases/2024/commerce-commission-declines-clearance-for-the-proposed-foodstuffs-merger

2. **Systemic change is unlikely anytime soon**
    - The prevailing political-economy is unlikely to tolerate systemic change in the foreseeable future – especially around land use rights and access to commons resource such as water.
    - Addressing food insecurity will (for the foreseeable future) need to continue to rely on public policy interventions, philanthropy and charity, and community activism.
3. **The social licence of the current food system offers a pivot to leverage social change**
    - The spectacle of want amongst plenty challenges the food system's social licence. In particular food waste within processing and retail is a major embarrassment which corporates are attempting to address through measures such as food rescue.
    - This tension provides opportunities to argue for change although the extent and nature of any change needs to be closely considered first.
4. **Community based activism is a feasible lever for this beneficial change**
    - Current community activism especially around food banks but also community gardens and food sharing, illustrates need and concern and provides the generative space for further initiatives which work toward systemic change rather than legitimising the current system.
    - There is a potential role for hapū as manawhenua to be involved in local leadership as part of their manaakitanga in those living in their rohe.
    - Community activism appears to be somewhat localised and competitive and lacking in much strategic intent.
5. **Appropriate data and insights help us to re-shape the narrative around the food system**
    - Narrative is important both for re-imagining the system and showing that change is possible.
    - Data is important for narrative for at least two reasons – it provide the bases for new and different insights and its collection adds to the discussion/debate which supports the narrative.

Agency as an organising tool

Consistent with the proposed objective for the Kai Challenge project and with the primary focus on the needs of households/families/whanau experiencing food insecurity, we believe that there is considerable merit and potential in focusing on the agency of people and communities to address their food security needs. This appears to be desire commonly shared amongst those working in Waikato's social food networks.

There is a common objective in wider social programmes to move people away from a dependency on the things such programmes offer. This background narrative presents dependency as intrinsically bad either for fiscal or moral reasons, or perhaps both. The objective in such programmes is to move people to independence or self-autonomy.

Part of the Kai Challenge Project's overall objective is to have less need for charity in Waikato's social food network and in programmes to relieve food insecurity. This objective needn't be limited to personal autonomy as the ultimate or optimal outcome. Certain types of responses to food insecurity are more appropriate to characterise as having a co-reliance objective – where individuals and whanau are engaged in co-production, co-consumption and sharing of food (e.g. in community kitchens, gardens and food events).

Agency as an organising tool can be applied across the food system from food growing, food processing (for users' preparation) and on to the distribution of prepared (ready to consume) foods. A map showing this approach is offered in Figure 5. Two features are worth highlighting about this map.

- There is still reliance on the large-scale food industry to produce and distribute food into the social food network but the growth of other forms of production and distribution make the system more diverse and maybe more robust.
- There are several areas of overlap especially within the social food network which we have labelled 'overlapping engagements'. These are between those working in local social food networks and between those receiving assistance from them. We believe that these overlaps offer potential to further develop these networks providing local leadership is present and motivated to seek out further innovation.

Mapping of possible social food sector initiatives on an agency spectrum

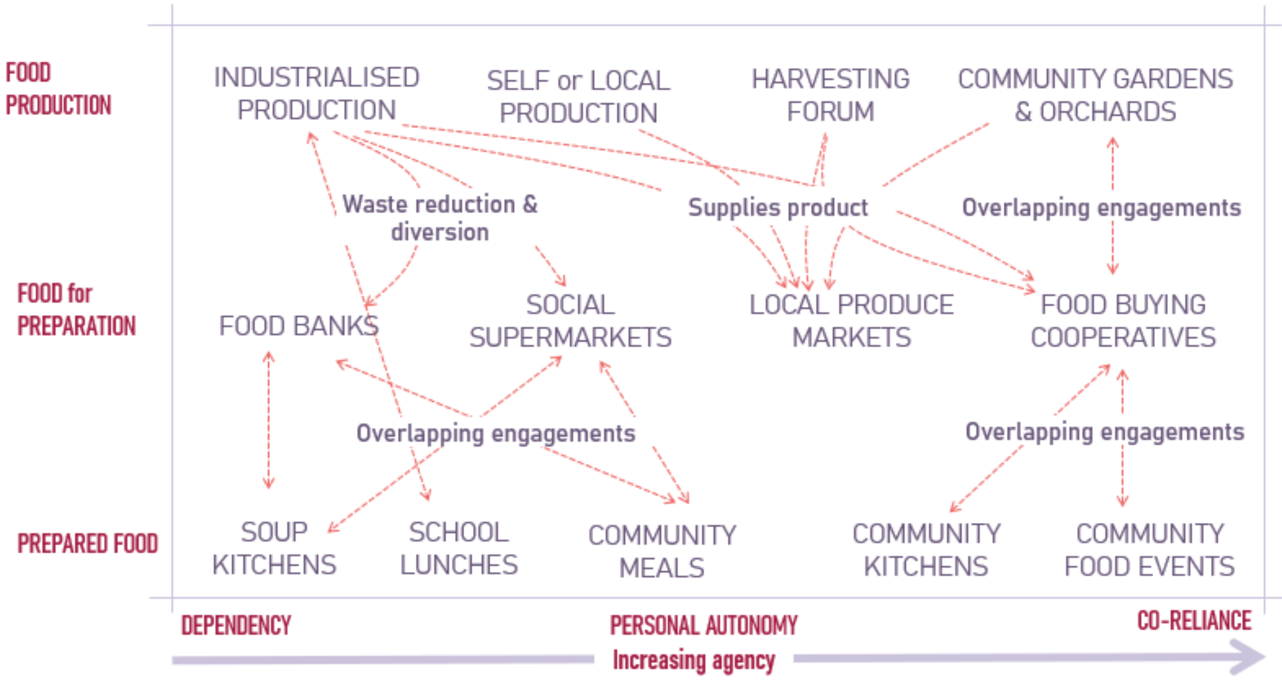


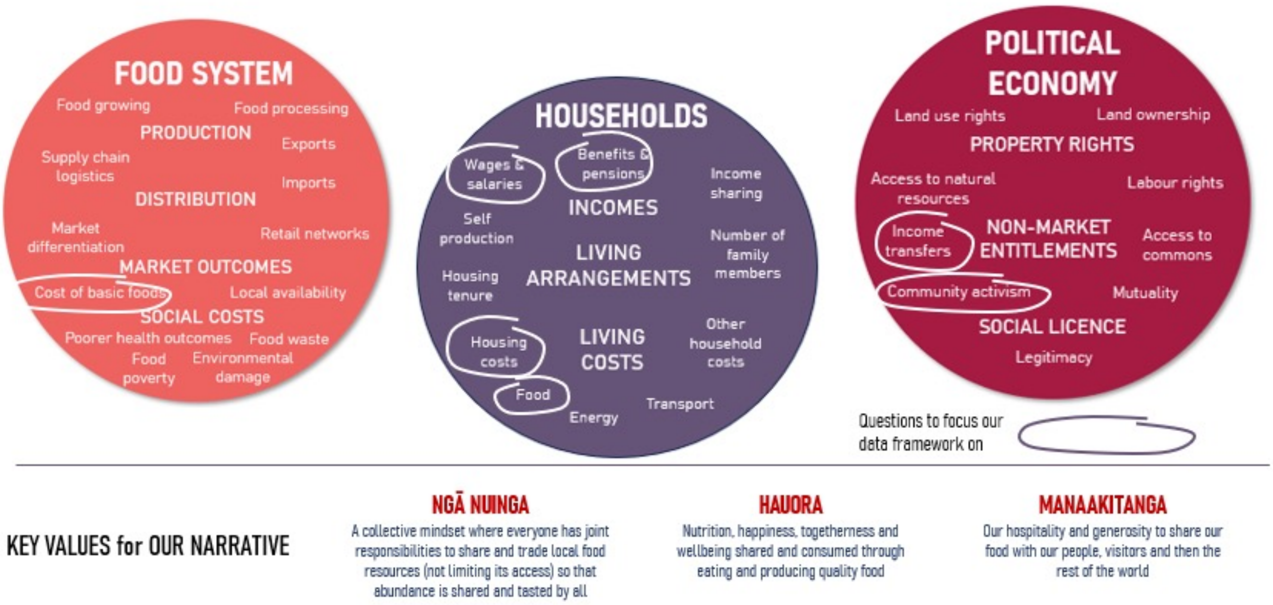
Figure 5. *Social Food Sector Initiatives*

An indicators framework based on a systems view

The systems map (Figure 4) highlights key links between the three main system components. The diagram below identifies the source of proposed indicators from each of the three system components which are recommended to be the focus of WWP for monitoring the kai challenge. These indicators as elaborated on in section 5 of this report.

The five indicators have been selected on the basis that:

1. Data is readily available, or should otherwise be able to be collected by the WWP from direct contact with the relevant agencies and food support providers in the region.
2. They focus on measuring the food insecurity problem and responses being made to alleviate it (rather than attempting to monitor the broader operation or impacts of the food system) .



5: Five proposed indicators

Outline of the proposed indicators

Five indicators are proposed to assist the Waikato Wellbeing Project to create a narrative to support and popularise the Kai Challenge. As noted above these indicators have been derived from a systems view of Waikato's food system, the political economy which underpins this system and the adequacy of incomes and the circumstances of different types of households. Some of these indicators have components which tend to complicate the picture they offer but also enrich it. These make for a more complex but probably more useful story. The five indicators are as follows.

1. **The cost of healthy diet**

   A survey-based indicator of the weekly price a household will need to pay for a preferred shopping basket which will provide it with a healthy diet.

2. **Food related income transfers from government**

   The number and value of food-related hardship grants paid to Waikato households by Ministry of Social Development. This is a rich data source with localised data available on request. The volumes reported are the consequence of at-the-time administrative practices which change with political shifts. Consequently, this data reports levels of provision rather than levels of need.

3. **Community based responses to food insecurity**

   Presently this indicator covers the volumes of food parcels distributed by some food banks, the numbers of households assisted by these parcels and the value of food re-directed from the waste steam. There is scope to expand this indicator although this will require greater buy-in from those involved in Waikato's social food network.

4. **Income adequacy**

   A three-part indicator which estimates the basic living costs of various types of households, the housing need and rents faced by these household types and existing benchmark or modest incomes likely to be received by these households. These measures are used to estimate income adequacy by household type.

5. **At-risk households**

   The numbers and types of Waikato households likely to be at risk of food insecurity in any one year and the numbers of children likely to be part of these households.

The cost of a healthy diet

This indicator considers how much a household would need to spend on a preferred food basket in order to maintain a healthy diet. This basket has been specified by food academics Strom, Te Ao, Rush and Mackay[10] and is seen to be suitable for a household of two adults and two children. The components of this food basket and the results of price survey based on this basket are provided in Appendix 1.

In early 2024 Strom and her colleagues published research which showed that between 2018 and 2023 the cost of healthy food was rising much faster than general inflation and wages. They reported a 54% increase over this period compared with 28% CPI inflation. However, since 2023 the prices of fresh food and vegetables have declined so the gap between food prices and general inflation has closed. This is shown in Figure 6.

In early October 2024 we undertook a shopping survey based on Strom's preferred basket of foods. This survey was done on-site at three supermarkets and also on-line for two of them. The results are reported in Figure 7 and in Appendix 1. There was a 16% variation in costs across the surveyed sites. On-line surveys between the two supermarket chains showed a 7% variation. The on-line surveys reported lower shopping bills and are probably more reliable as on-site surveys rely on stock to be available on shelves at the time of visit to be included in the survey.

The average between the on-line total shopping cost at Pak'nSave and Woolworths was $299 which is consistent with Strom et. al.'s results and price movements since their survey. This figure is used as a basis for the income adequacy indicators discussed later in this paper. This survey can easily be repeated on a quarterly or annual basis to track future trends in food prices facing Waikato households.

Strom et. al.'s work is based on a family of four. To calibrate against other types of households' needs we apply equivalence factors based on OECD's equivalence scale. This scale is illustrated in Figure 8 for the various types of households followed in these indicators while details of this scale are provided in Appendix 3.

Changes in wages and prices – 2014 to 2024

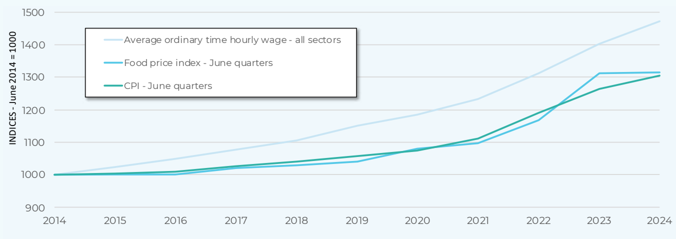


Figure 6. *Changes in Wages and Prices 2014-2024*

Comparisons of the cost of the preferred food basket – October 2024

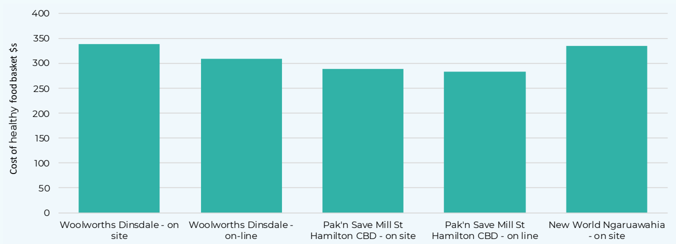


Figure 7. *Preferred Food Basket Costs 2024*

Household equivalence factors

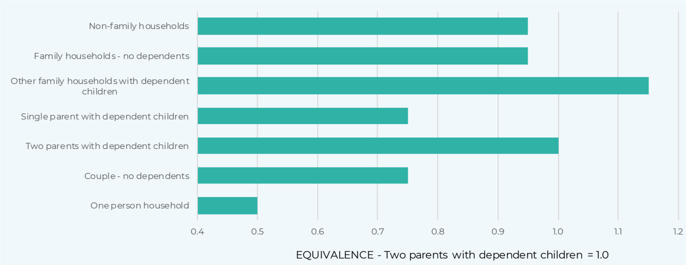


Figure 8. *Household Equivalence Factors*

[10] See Strom, J. Te Ao, B. Rush, E and Mackay, S. (2024) How has the cost of feeding New Zealand children changed from 2018 to 2023? Monthly price changes of a modelled lower-cost healthy diet. Journal of the Royal Society of New Zealand NZRJ0-2024-0065.R1

Food related income transfers from government

Through Ministry of Social Development's (MSD) Work and Income service centres, people receiving a working age benefit are eligible to receive supplementary hardship grants for a number of purposes including food poverty. MSD reports on the number and total value of these payments on a quarterly basis. This data is available regionally and often at a territorial local authority level as well.

The main indicator proposed is at a regional level and reports the numbers of food hardship grants provided to Waikato households on a quarterly basis. It is proposed that this data be reported for the last five years. This data is offered Figure 9 and the content data and analysis is provided as a separate spreadsheet.

Two supplementary indicators offered here are for the total and average values of hardship payments made. Similarly, these are both reported on a quarterly basis for the past five years and summarised in Figure 10 and 11. The average value of food hardship grants has been indexed against food price inflation to represent comparisons over time in the value of such payments in terms of what they can buy. This data is indexed against the last quarter of the series,

These indicators report administered numbers. These outputs depend on the stance of administrators which appear to change over time under the influence of political direction. As such they may or may not represent demand for such food assistance although they do offer a relevant glimpse of the landscape of food related poverty at that time.

Approval of and expenditure on food grants only acknowledges the food related insecurity and poverty amongst benefit poor households. While households relying on benefits are six times more likely to experience material hardship, the rate of such hardship amongst households living on market-based incomes is still around 6%[11]. The majority of working age households experiencing material hardship, and most likely food insecurity, rely on market incomes (59% of all such households v 41% receiving a benefit). The extent of these households' needs is not revealed by official statistics.

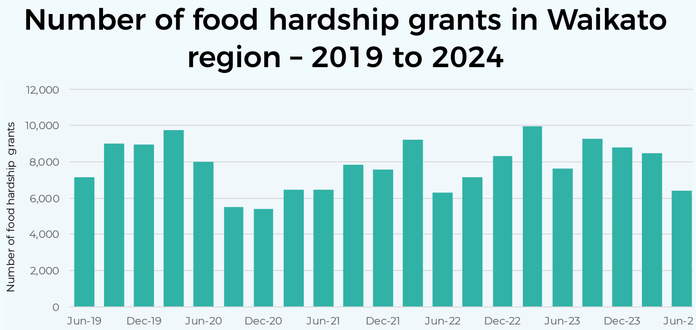


Figure 9. *Food Hardship Grants- by Number (2019-2024)*

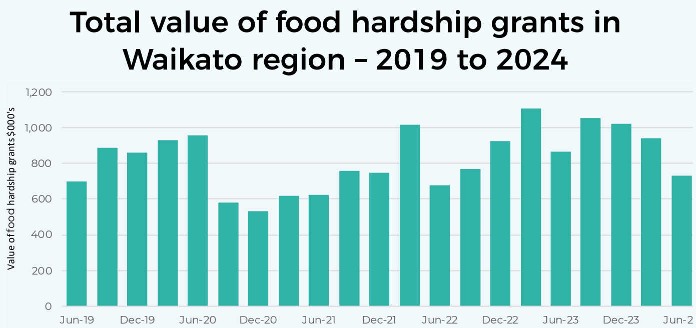


Figure 10. *Food Hardship Grants - by Total Value (2019-2024)*

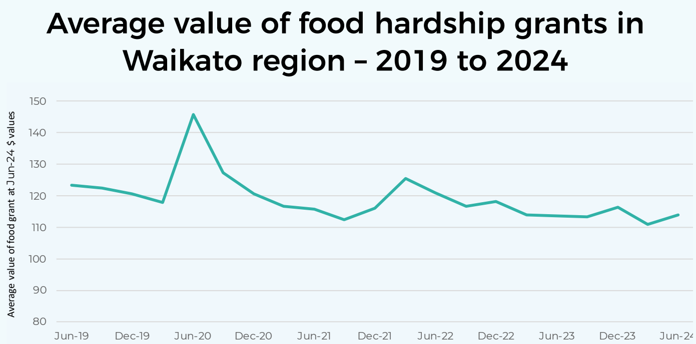


Figure 11. *Food Hardship Grants by Average Value (2019-2024)*

[11] See Perry, B. (2021) Table 3a with updates for 2022/23

Community based responses to food insecurity

Waikato communities have responded to food insecurity in a number of creative ways. These responses pre-dated and survived the COVID-19 lockdowns. As part of its response to the uncertainties created during the lockdowns, government provided $2.8 million in funding to 55 Waikato organisations for food security programmes between mid-2020 to mid-2024. Many of these organisations were not part of Waikato's social food network prior to the first lockdown in March 2020 and have ceased being involved once government withdrew funding.

This means that a 'new normal' is evolving where provision of food assistance mainly through food banks, social supermarkets, community meal programmes and food redistribution is largely the business of organisations doing these things pre-COVID. This activity was not funded by government pre-COVID and is unlikely to be funded by government into the future. Although MSD[12] was granted an additional $7.5 million of funding for 2024/25 to respond to increased demand for community food support nationwide, it is time-limited. Food banks and other food support groups face uncertainty and risk of reduced government funding beyond July 2025.

Measuring the outputs produced and the outcomes gained by organisations still involved in Waikato's social food network has proved difficult. The main difficulty has been around engaging with most of these organisations and getting them to report the volume of their activities and interactions.[13] To some extent this may be expected given the localised nature of most responses to food poverty or insecurity and the contested nature of funding from regional philanthropic organisations and corporate sponsors. This reluctance is however a barrier to developing both a comprehensive data picture of community responses and greater cooperation across Waikato's social food network.

The indicators developed for this framework in Figures 12, 13 and 14 are derived from information provided by the leading agencies in Waikato's social food network. This data represents at least half of the estimated provision of food assistance and most of the food redirection. The value of these indicators is in the trends shown with three years of consistent data post-COVID. Ideally this data should be reported annually and in time with the most recent five years of data offered.

The indicators report the total number of food parcels distributed and households assisted and the total value of food redistributed by reporting agencies.

Number of food parcels distributed by reporting agencies – 2021 to 2024

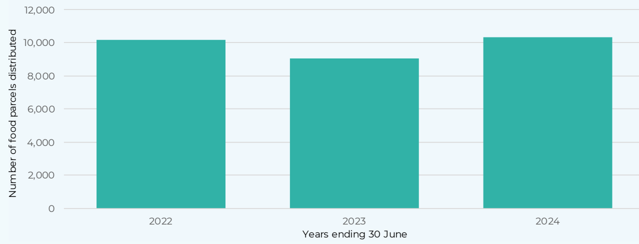


Figure 12. *Number of Food Parcels (2021-2024)*

Number of households assisted with these food parcels – 2021 to 2024

Figure 13. *Number of Households Assisted (2021-2024)*

Value of food re-directed to Waikato households – 2021 to 2024

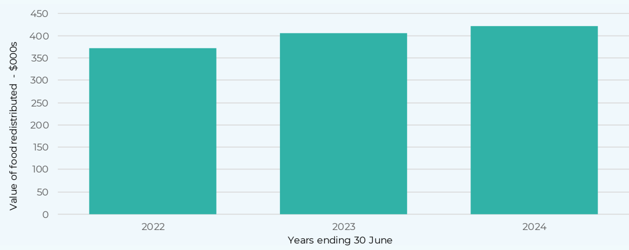


Figure 14. *Value of Food Parcels (2021-2024)*

[12] Refer https://www.msd.govt.nz/what-we-can-do/community/food-secure-communities/index.html
The funding is to be allocated by MSD nationwide to support up to 50 community food providers to meet high demand ($6m) and invest in or expand up to ten food security initiatives which aim to increase the amount of healthy and affordable food in communities ($1.5m).

[13] The authors contacted 25 Waikato foodbanks for data on the volumes of food parcels/food assistance provided and the numbers of households involved and received responses from just five.

Income adequacy

Food insecurity is a consequence of households having insufficient income to meet all their expenses including their basic living costs. Household expenses may include the costs of servicing debt and purchases which may not be essential for gaining healthy diets and housing, educating children and reasonably participating in social life.

Those active in the social food network report that it is common for low-income households to give food a low priority in household spending because other essential expenses such as rent, car expenses and electricity are more important for their immediate survival. This lower priority results in inadequate diets and/or requests for food assistance. A feasible policy response is to top up these households' incomes with income transfers from government. An important question is how much such transfers need to be in order to avoid most of the food insecurity currently being experienced? The proposed income adequacy indicator attempts to answer this question in the context of Waikato.

The proposed income adequacy indicator has three parts:

- A measure of the basic living costs of various types of households
- A measure of housing need and rents faced by these household types
- Existing benchmark or modest incomes likely to be received by these household types.

Model for estimating basic household living costs

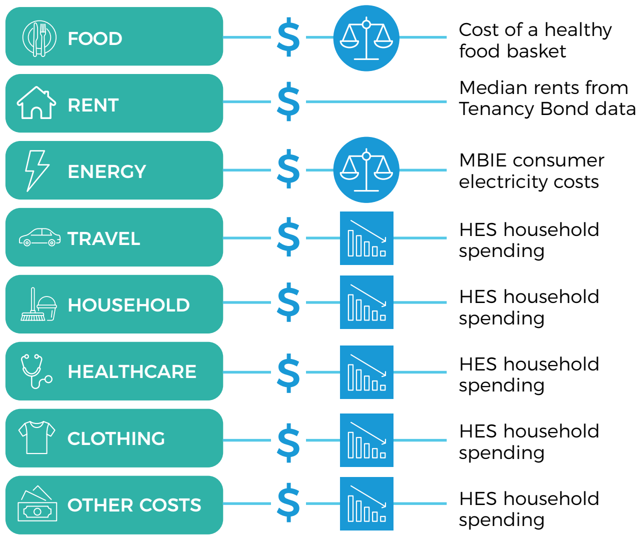


Figure 15. *Household Living Cost Model*

Basic living costs by household type 2024

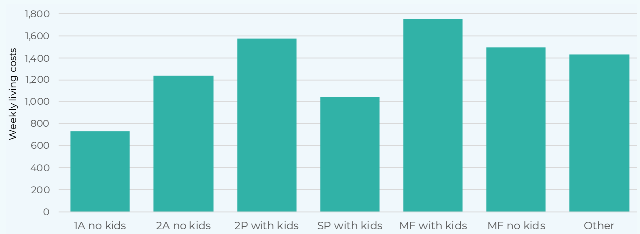


Figure 16. *Basic Living Cost by Household Type (2024)*

Basic living costs

Estimates of a household's basic living costs will vary depending on its size, location and housing tenure. The measure used to estimate these costs is based on the model in Figure 15. This model takes account of these variations in households' circumstances as follows:

- **Food and electricity costs** are estimated by market surveys and adjusted by household equivalence factors[14] which take account of the numbers of adults and children in a household.
- **Housing costs** are based on an assumption that most at-risk households are renting in the private sector and face current market rents – see detailed explanation below.
- **Other household expenses** are derived from the mix and volume of spending reported in Statistics NZ's Household Economic Survey (HES) for each household type. This spending is reduced by up to 40% to take account of the fact that HES households' spending is averaged across all participating households which would tend toward the experiences of middle-income New Zealanders. At-risk households will tend to have lower than average incomes so will, by necessity, need to economise on their spending most likely without any significant impact on their wellbeing. This reduction takes account of this economic reality – see Appendix 3 for a detailed discussion.

Figure 16 reports basic living costs for the household types reported in HES.

[14] The equivalence factors used are based the OECD's equivalence scale – see Statistics NZ (2019) Measuring child poverty Equivalence scale; available at https://www.stats.govt.nz/methods/measuring-child-poverty-equivalence-scale f. See Appendix 3 for a detailed description.

Housing needs and costs

These estimates of basic living costs show that housing costs typically account for more than 40% of households' costs. Housing costs are somewhat sensitive to where a household lives and the choice of housing it has at this place. To account for this sensitivity and variability we have considered housing opportunities across Waikato region on a TLA basis.

A mapping of housing need to household type is offered in Table 1. This mapping is an approximation of the size of house needed (and so the rent to be paid) to adequately accommodate different types of households. In practice this matching isn't perfect and households either crowd into smaller than ideal housing or have to rent a larger house than they need because none more appropriate are available. This later scenario may particularly apply to small households in rural towns where there are few single bedroom houses in the local housing stock.

The rents used in this model are based on Ministry of Business Innovation and Employment's (MBIE) Tenancy Bonds data. These prices represent rents being agreed between landlords and tenants and so can be seen as the clearing price for private sector tenancies. Statistics NZ publish rents data based on household surveys and these are always less than the MBIE figures. Rents are normally lower than current market ones in long-term tenancies, social housing or housing rented within families.

The median rents reported in Table 2 are estimates based on monthly Tenancy Bond data for each TLA area in Waikato and for the region overall. Rents by the numbers of bedrooms in dwellings are not reported at a TLA level so these have been estimated for each TLA area in Waikato and for the Region overall. Rents by the numbers of bedrooms in based on the overall median rent for each district. Details of these estimates are provided in Appendix 2. Estimates for one-bedroom dwellings outside of Hamilton are not provided as most districts have few dwellings of this size.

Mapping of housing need to house size

	Number of bedrooms			
	1	2	3	4
One person household	✓	✓		
Couple - no dependents	✓	✓		
Two parents with dependent children			✓	
Single parent with dependent children		✓		
Other family households with children			✓	✓
Family households - no dependents			✓	
Non-family households		✓	✓	

Table 1. *Household Need to Household Size*

Median rents across Waikato – YE June 2024

	Number of bedrooms					
	1	2	3	4	Active bonds	Overall median
Hamilton	350	500	600	700	21,900	550
Hauraki		500	600	700	1,065	545
Matamata Piako		500	575	700	1,935	550
Otorohanga		450	525	600	540	477
South Waikato		450	525	625	1,788	483
Taupō		550	650	775	2,820	604
Thames Coromandel		500	575	675	1,569	532
Waikato		550	650	775	3,684	597
Waipa		575	675	800	3,279	630
Waitomo		350	425	525	441	382
Waikato region	350	500	600	700	39,021	550

Table 2. *Median Rents Across the Waikato (2024)*

As shown on the above table, rents are highest in Hamilton and Cambridge and tend to get cheaper the further away from Hamilton the houses are. The exception to this trend is Taupō. Hamilton and the surrounding towns and rural suburbs in Waipa and Waikato districts account for more than 70% of Waikato's rental housing stock. There is something of a dual rental housing market – one around Hamilton and in Taupō and another across the rest of Waikato. This distinction is used in the following analysis of household incomes and income adequacy.

Estimates of representative households' incomes

Incomes for eight representative households have been estimated at mid-2024. These estimates are based on income scenarios as described in Table 3. The representative households are all assumed to be renting an appropriate and available house at the median rent and to be receiving an Accommodation Supplement (AS) payment where this is available.

As policy settings complicate the household incomes picture across Waikato on account of different maximum payments applying in different cities towns and townships. Urban areas with higher housing costs such as Hamilton and urban parts of Waipa, Waikato and Taupō districts have higher maximums – these are 'Area 2'. Most of the rest of Waikato is in 'Area 3'. These maximums by area and household type are shown in Table 4 and contribute to final household incomes.

Representative households' incomes in Areas 2 and 3 are reported on the adjacent table. The adequacy of these incomes after allowing for household basic living costs is illustrated in Figure 17 for Hamilton – indicating the extent to which different types of households are likely, or not, to have residual income to spend above the estimated level of basic living costs. Additional data on income adequacy is provided in Appendix 2.

Adequacy of weekly household incomes in Hamilton – mid-2024

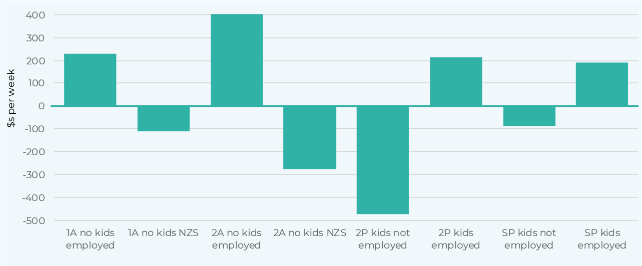


Figure 17. *Income Adequacy in Hamilton, 2024*

Maximum AS payments by households and areas

Type of Household	Max AS Area 2	Max AS Area 3
One person household - employed	105	80
One person household - fully retired	105	80
Couple - no dependents - employed	155	105
Couple - no dependents - fully retired	155	105
Two parents with dependent children - not employed	205	160
Two parents with dependent children - employed	205	160
Single parent with dependent children - not employed	205	160
Single parent with dependent children - employed	205	160

Table 4. *Maximum AS Payments*

Representative household incomes for Waikato– mid 2024

Type of Household	Area 2	Area 3
One person household - employed	964	952
One person household – fully retired	626	601
Couple - no dependents - employed	1,719	1,702
Couple - no dependents – fully retired	960	910
Two parents with dependent children - not employed	1,102	1,057
Two parents with dependent children - employed	1,789	1,772
Single parent with dependent children - not employed	962	917
Single parent with dependent children - employed	1,239	1,222

Table 5. *Waikato Household Incomes (2024)*

Type of Household	Income Scenario (weekly)
One person household - employed	Minimum wage working 45 hours per week
One person household – fully retired	Only NZ Superannuation
Couple - no dependents - employed	Male - 40hrs/week at average wage Female 30hrs/week @ minimum wage
Couple - no dependents – fully retired	Only NZ Superannuation
Two parents with dependent children - not employed	Job seeker benefits + WFF for two kids
Two parents with dependent children - employed	Male - 40hrs/week in construction Female 30hrs/week @ minimum wage + WFF for two kids
Single parent with dependent children - not employed	Supported living payment + WFF for two kids
Single parent with dependent children - employed	Retail employment for 30 hours per week

Table 3. *Households and Income Scenarios*

At-risk households

The fifth proposed indicator is an estimate of households which are at-risk of food insecurity. These households are most likely to experience food scarcity or inadequacy at some time during the year. Their response to this inadequacy may or may not be to seek assistance from a foodbank or social supermarket or perhaps from Work and Income if they rely on a benefit.

The at-risk household's indicator is compiled by applying poverty estimates to Waikato's population profile. This is done at the level of households. Poverty statistics are taken from Statistics NZ's Household Economic Survey (HES) and MSD's adaption of data from HES which is known as DEP-17. DEP-17 estimates rates of material hardship by type of households and these rates are applied against Waikato's household profile to estimate the numbers of households in Waikato facing material hardship. From this estimate the numbers of children living in these households is also estimated. The model for producing this indicator is provided in the Figure 18.

This estimate relies entirely on the nexus between households participating in the HES reporting some level of hardship over the past 12 months and the assumption that some of this hardship has been in the form of food insecurity. The material hardship factors featured in the HES include food inadequacy so this is not an unreasonable assumption[15]. Other poverty measures based on income relativities can equally and validly be applied to Waikato's household profile to estimate the numbers of at-risk households. These income related measures would provide higher estimates of the at-risk population[16] and could be used instead of the material hardship-based measure, if leaders of the WWP decide to do so. On any account it should be stressed that the material hardship-based measure is the lowest (and most conservative) available estimate of the numbers of at-risk households.

In 2023 we estimate that 17,500 to 18,000 Waikato households faced food insecurity or around 9% of all households. In that year just over 15,000 children lived in these households or about 12% of Waikato children. Estimates of these figures are provided in Table 6.

Between 2018 and 2023 it is likely that the rate of material hardship and food insecurity experienced by Waikato households dropped from 10% to 9% and the proportion of children affected by 14% to 12% (Figure 19).

[15] For a discussion on the merits of the material hardship measure see Statistics NZ's website at https://www.stats.govt.nz/news/child-poverty-statistics-show-increase-in-material-hardship-for-the-year-ended-june-2023/

[16] See Appendix 4 for these comparisons

Model for estimating the number of at-risk households

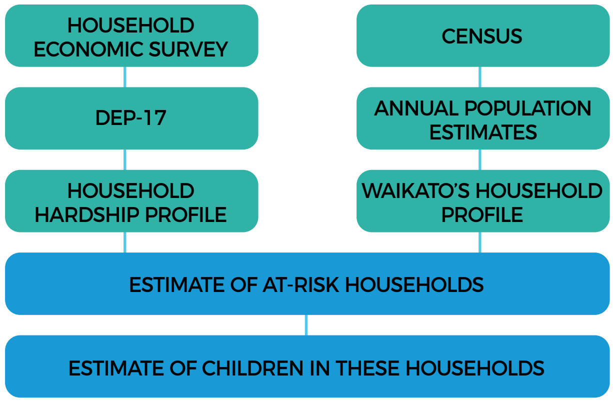


Figure 18. *At Risk Household Model*

Estimates of households at risk of food insecurity in Waikato in 2023

Type of Household	Proportion of hardship	# of H-holds	#households at risk	# children at risk
Single person household - under 65	14%	24,600	3,444	
Single person household - over 65	3%	23,300	699	
Couples' household - under 65	3%	31,700	951	
Couples' household - over 65	2%	23,700	474	
Two parent household with dependents	6%	56,200	3,372	5,395
Single parent household with dependents	31%	21,000	6,510	8,463
Other family households with dependents	15%	6,000	900	1,440
Family household no dependents	7%	5,000	350	
Non-family households	11%	9,500	1,045	
All households	9%	201,000	17,745	15,298
Total children	**12%**			**127,200**

Table 6. *Waikato Households at Risk of Food Insecurity, 2023*

Changes in at risk Waikato population between 2018 and 2023

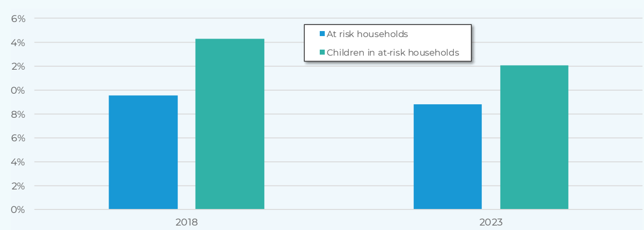


Figure 19. *Changes in At Risk Population 2018-2023*

6: Wrap up & possible next steps

Reducing food insecurity in the region will allow individuals and families to be in a better position to engage in education, work and social activities. Responses grounded in a co-reliance rather than dependency mindset will translate into healthier, resilient communities and reduced strain on social support agencies.

The purpose of the report is to develop a set of indicators for measuring food insecurity in the Waikato region. As outlined above a set of five indicators is proposed to allow the WWP to focus on the core determinants of the demand for, and current supply of, food support in the region. The WWP will need to confirm whether these are sufficient and also whether it has capability to continue to monitor and update the indicators over time.

The numeric values attributed to the various indicators proposed in this report may not accord with some stakeholders' sense of the reality they face in their work within Waikato's social food network. For example, things may appear better or worse than the picture being presented by these indicators. In considering this question three features of the indicators offered in this report need to taken into account. Firstly, the values estimated for each of the indicators are not precise or especially timely. They rely on the availability of recent reliable data and as noted in this report data reliability is problematic partly because of the limited willingness of community agencies to share information and partly because MSD numbers on food related grants are determined as much by administrative practice as by underlying demand. Secondly, and despite these limitations, the indicators provide a credible estimate of the quantum of the issue of food insecurity in the Waikato region. For example, the scale of the problem at present is probably affecting 10% to 15% of Waikato households – not 5% or 25%. This scaling of the problem helps ground the subsequent narrative in a reality and avoids vague and ill-informed debate dominating this narrative. Thirdly, consistent measurement of factors which contribute to the indicators allows us to understand trends over time – to show whether things are getting better or worse.

Without more up-to-date data and a way of reconciling apparent divergent trends of reported rising foodbank demand alongside declining numbers of food grants through MSD, it is difficult to tell if levels of food insecurity are stuck at a new post-COVID-19 normal or are getting worse. MSD officials may argue that not much has changed while food bank people may claim that things are getting worse in late 2024. The background of a deteriorating labour market would suggest that households' incomes are falling slightly and with this the incidence of food insecurity may be increasing.

Figure 20. *Proposed Ōtākaro Orchard in Ōtuatahi-Christchurch*

At present this picture is complex with both rising numbers of people in employment and rising numbers of people unemployed or underemployed[17].

This project has perhaps stepped outside its brief in that it has offered ideas of where Waikato's social food network may develop next. Such steps and any direction involved are clearly the business of those involved in this network although this report offers a framework for starting a discussion around these questions.

[17] Statistics NZ's Household Labour Force Survey reports that between June 2022 and June 2024 the number of people in employment in Waikato Region rose from 269,800 to 279,800 while the number unemployed climbed from 9,900 to 16,100 and as a rate from 3.5% to 5.4%. Over the same period the underutilization rate rose from 8.9% to 13.4%

As a next step the WWP will also be considering whether additional interventions beyond current supply responses should be pursued to address food insecurity in the region. Although there are many successful forms of supply response already operating in the region there are likely gaps at a local level in terms of their reach to all households experiencing food insecurity. As noted above there may be a significant degree of overlapping engagements in the support system, where households and charitable and community groups cross paths.

One option the WWP could consider is whether it should play a leadership role in developing a more even and coherent regional network of food support groups. That would also generate the need for new types of data to be captured. For example, information and data on the outputs and outcomes of local community or hapu led initiatives that seek to shift the food support system into more of a co-reliance space rather than a dependency one. Obtaining such information will likely remain a challenge as it will rely on building networks at a local level and across the region by engaging directly with multiple groups and organisations. However, the effort would be helpful to the cause of harnessing pockets of community activism and championing alternative responses to mainstream responses to the food insecurity issue.

Appendix 1:

Background to the cost of healthy diet indicator

This appendix considers the background data used to generate the cost of the healthy diet indicator. As discussed above this indicator is based on the current or recent cost of a basket of healthy food items identified by Strom et. al.[18]

Approach

Strom and her colleagues did their analysis based on Statistics NZ reports rather than actual shopping surveys. The analysis included in this report was based on in-store and on-line surveys of Waikato supermarkets undertaken in September 2024. The results reported above are closely consistent with those reported by Strom et. al. although the total cost of the basket of food items was lower in late 2024 than in 2023 as reported by Strom. This appears to be due to lower fresh food prices in 2024. The cost of the surveyed baskets of goods was just under $300 and this cost has been included in the household living cost indicator discussed in Appendix 3.

Our approach included site visits to three Waikato supermarkets which low-income households are likely to shop at. These were Woolworths in Dinsdale, Pak'nSave on Mill Street Central Hamilton and New World in Ngāruawāhia. On-line shopping surveys were also done at Woolworths Dinsdale and Pak'nSave Mill Street for comparisons.

The in-store surveys were based on the price of goods available on the shelves at the time whereas the on-line surveys were based on listed goods. Occasionally (less than 5% of goods) the cheapest products were not available at the time of visit. This meant the next least expensive comparable item was included in the survey.

For both in-store and on-line surveys the cheapest option available was included in the basket – these most often were the supermarket chains' house brands. While Strom and her colleagues nominated weekly quantities of products in their healthy food basket, some allowance was made for households to buy larger packages of some products because of the obvious cost savings available. The per kilogram or per litre cost of these items was applied against Strom's weekly quantities to determine the weekly cost of that product item for the reference household.

Strom's reference household was a couple with two dependent children. This has been adopted as the base reference household for the analysis offered in this paper. As discussed in Appendix 3 equivalence factors have been applied to results for this reference household (such as the healthy food basket cost) to determine the equivalent cost faced by smaller or larger households.

Outline of shopping survey

The schedule and results of the shopping survey conducted for this paper are included in the 'Incomes model' Excel datafile provided with this report. This schedule follows, as closely as possible, the basket of goods nominated by Strom et. al. This schedule can simply be followed to replicate the survey in the future.

Three learnings have come from the shopping surveys which may inform how repeat surveys are done as follows:

1. Pak'nSave is cheaper than Woolworths – the survey suggested a margin of 8-9% in the on-line surveys.
2. The on-line basket cost was cheaper than the in-store ones especially for the Woolworths' comparisons where the unavailability of products in-store contributed to a 9% higher shopping bill.
3. The smaller and more remote New World in Ngāruawāhia was more expensive (by about 15%) than the same chain Pak'nSave supermarket 20km away in central Hamilton.

Insights gained from these learnings are;

- the on-line survey is a reliable and convenient approach to gathering the required cost information and is probably the least expensive way to shop depending on what any associated assembly or delivery charges are,
- the costs faced by households outside of Hamilton and certainly where the is no local Pak'nSave will be higher – perhaps by more than 10%,
- a reasonable estimate of the lowest cost of the healthy food basket at any time is the average cost between on-line survey results of the Pak'nSave and Woolworths supermarkets in Hamilton.

[18] Strom, J. Te Ao, B. Rush, E and Mackay, S. (2024) How has the cost of feeding New Zealand children changed from 2018 to 2023? Monthly price changes of a modelled lower-cost healthy diet. Journal of the Royal Society of New Zealand NZRJ0-2024-0065.R1

Appendix 2:

Background analysis of households' housing costs and support

This appendix offers additional analysis of housing related issues as they may impact on Waikato households' food insecurity. As part of this analysis the appendix provides workings of the key the data underpinning the housing related indicators above. These workings are offered to assist in future updates of these indicators. A spreadsheet with the full data set has been provided as part of this appendix.

Tenants, housing costs and food insecurity

The income adequacy indicators are based on the premise that most households experiencing food insecurity and the related material hardship are tenants. There is a significant overlap between tenant households and those experiencing food insecurity although a small number of older owner-occupiers may also experience this insecurity.

Statistics NZ's Household Economic Survey (HES) reports trends in household incomes and housing costs on a national basis. A consistent result from the survey is that tenant households are twice as likely to face housing costs in excess of 40% of their income than are owner occupier households (28% v 13% - HES 2023).[19] Tenant households typically have lower incomes than owner-occupier households which means that the residual incomes– after housing costs, are less in dollar terms. HES 2023 reported the median equivalised household incomes and housing related costs by household tenure[20]. This data is presented on Table A2.1 and shows that on an equivalised basis, mortgaged owner-occupier households' income is 1.4 times that of tenant households. Unmortgaged owner-occupiers, who tend to be older and often retired, had a similar income as tenant households but less than half their housing costs. After allowing for housing related costs faced by each type of household – but excluding mortgage principal repayments (which are savings rather than spending) tenant households, in dollars terms, have about 60% of the after-housing cost income of owner-occupiers. Mortgaged owner-occupiers have however been squeezed recently by higher mortgage interest costs. These rose from an average of $203 per week in 2021 to $312 in 2023.

Comparisons of household incomes and housing costs by housing tenure - 2023

	Median equivalised income	Housing costs	Residual income
Owner-occupier with mortgage	60,000	26,000	34,000
Owner-occupier without mortgage	42,500	9,800	32,700
Tenants paying rent	42,500	22,200	20,300
Owner by family estate	61,000		

Table A2.1. *Household Incomes and Costs by Tenure (2023)*

Figure A2.1 reports the share of housing tenure cohorts in the lowest two household income quintiles. Also compared are the share of households reporting material hardship and receiving food bank assistance which have incomes in these lowest two quintiles. Unsurprisingly 50% of tenant households have incomes in the lowest two quintiles and more than 70% of households in these two quintiles experience hardship.

Share of selected cohorts in lowest two income quintiles - 2023

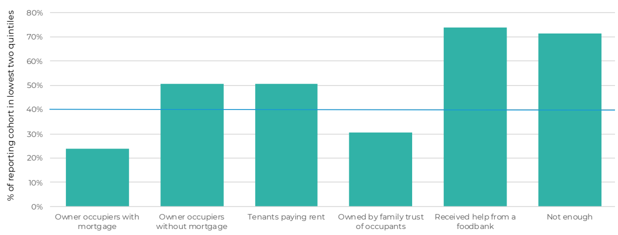


Figure A2.1. *Figure A2.1. Share of Cohorts in Lowest Income Quintiles (2023)*

[19] See Statistics NZ (2024) Household income and housing cost statistics – Table 10. Source: https://stats.govt.nz/information-releases/household-income-and-housing-cost-statistics-year-ended-june-2023/

[20] Ibid Table 9 and 5 respectively. Equivalised household incomes and average housing costs spends are not strictly comparable although the comparisons offered in the above table are useful as an example of the relativities between tenants and owner-occupiers.

Waikato in the national context

Waikato accounts for 10% of New Zealand's population and typically sits around the national average in most social and demographic indicators. The graphs and tables below provide a partial view of Waikato's current housing story.

Population and housing growth in tandem

Between the 2018 and 2023 Censuses Waikato region's population grew 8.9% while the numbers of private dwellings grew 9.1% or by just under 18,000. The numbers of occupied private dwellings grew 9.0% or by 14,700 to 180,000. Essentially Waikato's housing stock grew at the same rate as its population while the region's population grew 60% faster than the national average but the same as national growth housing stock-wise. There is nothing in these statistics that would suggest Waikato has a burgeoning housing shortage on account of population growth although as shown in Table A2.2 there is considerable variation in growth rates across the region.

Changes in Waikato's resident population and housing stock – 2018 to 2023[21]

	Usually resident population		Private dwellings		Population growth	Housing stock growth
	2018	2023	2018	2023		
Thames-Coromandel District	29,895	31,995	25,755	26,829	7.0%	4.2%
Hauraki District	20,022	21,318	9,258	9,792	6.5%	5.8%
Waikato District	75,618	85,968	27,948	31,869	13.7%	14.0%
Matamata-Piako District	34,404	37,098	13,893	15,162	7.8%	9.1%
Hamilton City	160,911	174,741	58,449	65,403	8.6%	11.9%
Waipa District	53,241	58,686	21,024	23,379	10.2%	11.2%
Ōtorohanga District	10,104	10,410	4,254	4,416	3.0%	3.8%
South Waikato District	24,042	25,044	9,687	9,912	4.2%	2.3%
Waitomo District	9,303	9,585	4,251	4,407	3.0%	3.7%
Taupō District	37,203	40,296	20,844	22,044	8.3%	5.8%
Waikato Region	458,202	498,771	196,722	214,611	8.9%	9.1%
New Zealand	**4,699,755**	**4,993,923**	**1,871,934**	**2,041,236**	**6.3%**	**9.0%**

Table A2.2. *Changes in Population and Housing Stock 2018-2023*

Waikato is somewhat unique in the mismatch between occupied housing and the total housing stock. At the time of the 2023 Census 8.8% of the private dwellings in the region were empty. This is against a national average vacancy rate of 5.3% and in Waikato amounted to 18,800 houses. Table A2.3 shows that almost two-thirds of these empty houses are in Thames-Coromandel and Taupō districts which are well established locations for holiday homes. The numbers of empty homes across Waikato increased by 1300 between 2018 and 2023 although as a proportion of the housing stock remained the same.

	Private dwellings	Empty private dwellings	Empties as % of stock
Thames-Coromandel District	26,829	8,034	29.9%
Hauraki District	9,792	747	7.6%
Waikato District	31,869	1,344	4.2%
Matamata-Piako District	15,162	483	3.2%
Hamilton City	65,403	2,115	3.2%
Waipa District	23,379	573	2.5%
Ōtorohanga District	4,416	438	9.9%
South Waikato District	9,912	414	4.2%
Waitomo District	4,407	540	12.3%
Taupō District	22,044	4,050	18.4%
Waikato Region	214,611	18,798	8.8%
New Zealand	**2,041,236**	**108,507**	**5.3%**

Table A2.3. *Private and Empty Dwellings, 2023*

[21] Source 2023 Census

Rents rise faster in Waikato

Waikato rents are below the national average although this average is buoyed significantly by the relatively high rents in Auckland and Wellington which account for 40% of the rental market by volume.

The median weekly rent in Waikato reached $565 in September 2024 which was an increase of 40% in nominal terms over the preceding five years. By comparison the median weekly rent nationally was $600 for the September 2024 quarter while it fell slightly to $650 in Auckland and $610 in Wellington region.

Waikato rents have risen comparatively faster than rents overall and especially against median rents in Wellington and Auckland. Between 2019 and 2024 Auckland median rents increased 20% in nominal terms and by 25% in Wellington. The national median rent increased 33%.

Waikato housing affordability worse than NZ averages

In terms of housing affordability Waikato region sits below the national average. Table A2.4 provides two affordability measures on a regional basis from the 2023 HES. In terms of the ratio of housing costs to household incomes Waikato had the second worse affordability at 22.3% (just ahead of Auckland at 23.5%). This ratio has been fairly consistent since 2019. In terms of after household disposable income (on an equivalised basis) after housing costs in the Waikato ranked 6th out of the 12 regions reported and $1200 below the national average.

Median weekly rents by region 2019-2024

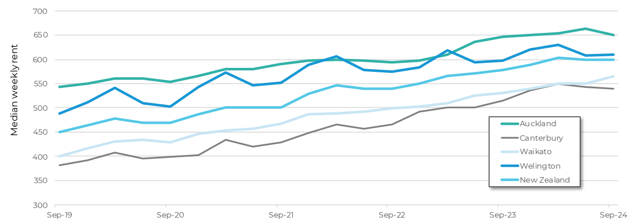


Figure A2.2. *Median Weekly Rents by Region 2019-2024*

Indices of changes in regional rents

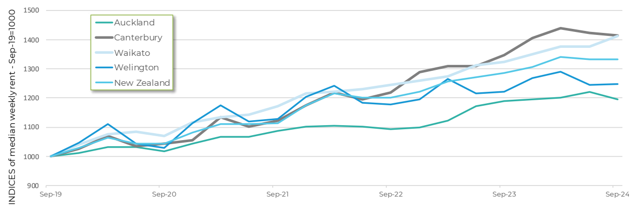


Figure A2.3. *Indices of Change in Regional Rents 2019-2024*

[22] See Statistics NZ (2024) Household income and housing cost statistics – Tables 4 and 11. Source: https://stats.govt.nz/information-releases/household-income-and-housing-cost-statistics-year-ended-june-2023/

Measures of housing affordability on a regional basis - 2023[22]

	Average annual housing costs	Average annual household disposable income	Ratio - housing cost to income	Household equivalised disposable income after deducting housing costs
Northland	16,952	80,673	21.0%	31,634
Auckland	27,616	117,754	23.5%	39,326
Waikato	20,000	89,730	22.3%	35,313
Bay of Plenty	18,064	89,133	20.3%	32,907
Gisborne / Hawke's Bay	16,660	90,731	18.4%	36,781
Taranaki	17,065	94,346	18.1%	36,425
Manawatū-Whanganui	15,486	77,481	20.0%	31,621
Wellington	24,348	111,616	21.8%	41,926
Tasman / Nelson / Marlborough / West Coast	15,180	82,240	18.5%	35,219
Canterbury	18,992	90,988	20.9%	36,077
Otago	17,891	86,266	20.7%	34,706
Southland	15,028	78,009	19.3%	32,597
New Zealand	**21,409**	**98,879**	**21.7%**	**36,521**

Table A2.4. *Housing Affordability by Region 2023*

Mapping of housing need to house size

For the sake of assessing the likely rents faced by various types of households a mapping of these types to the sizes of dwellings (by number of bedrooms) is provided in the body of the report (refer Table 1). This mapping includes a theoretical and pragmatic allocation of household types to dwelling size allowing for the differences in the actual availability of suitably sized houses to rent (or perhaps purchase) given the nature and extent of local housing markets.

To illustrate the extent of choice tenant households may have the table below offers an approximation of local rental markets by TLA and numbers of different sized dwellings. This approximation is based on Census 2023 data on dwelling size by TLA areas and regions and reported household tenure. Estimates of the numbers of rental properties given in this table have been rounded to the nearest one hundred.

The data provided in Table A2.5 indicates that in four TLA areas there are likely to be 100 or fewer one-bedroom rental units. Data on the number of singe person households which may occupy such housing is not yet available in published Census reports. On any account, for the sake of estimating households' housing costs it has been assumed that most small households (single and couples only) will need to rent a two-bedroom dwelling everywhere but Hamilton. This is on account of the thin market for one-bedroom properties across most of Waikato.

Estimates of the Waikato rental housing market by TLA and dwelling size – 2023

	1 Bdrm	2 Bdrms	3 Bdrms	4 Bdrms	5+ Bdrms	Proportion of dwellings not owned by occupants
Thames-Coromandel District	200	600	1,300	700	200	22.5%
Hauraki District	100	400	1,200	500	100	27.9%
Waikato District	300	900	2,900	2,500	800	26.1%
Matamata-Piako District	200	600	2,100	1,200	300	30.6%
Hamilton City	1,900	5,800	11,800	6,800	1,800	46.4%
Waipa District	200	800	2,400	1,800	400	26.0%
Ōtorohanga District	100	200	600	400	100	34.7%
South Waikato District	100	400	1,800	700	200	36.1%
Waitomo District	100	200	600	300	100	36.0%
Taupō District	200	700	2,200	1,100	300	29.6%
Waikato Region	3,400	10,600	26,900	16,000	4,300	34.4%
New Zealand	**42,000**	**119,000**	**256,000**	**146,000**	**47,000**	**34.0%**

Table A2.5. *Estimates of Waikato Rental Housing Market (2023)*

Estimating local rents

The median rents reported in Table 2 have been derived from MBIE's Tenancy Bond Division rents data[23]. This derivation is provided in the Excel file provided with this report[24]. This spreadsheet can be used to update rent data used in this report to re-estimate the income adequacy indicators. The process for deriving these median rents estimates is as follows:

1. Rent data for TLA areas in Waikato region are taken from the MBIE data file 'By territorial authority, February 1993....' The raw data is sorted and data from the Waikato TLAs is extracted. From this extracted data the numbers of active bonds, the median rents and the lower quartile rents are compiled into a separate table for the last five years. This five-year data set is reported on a monthly basis so to aggregate it into quarterly and annual data the median and lower quartile data is averaged over three or 12 months. The active bond figure is the taken as the figure for the last month of each quarter or year being analysed.
2. Rent data for the Waikato region is taken from the MBIE data file 'By region, February 1993...'. As with the raw data for TLA's, the Waikato region data is extracted and the numbers of active bonds, median rents and lower quartile rents for the past five years are compiled on a separate table. The same manipulation of monthly data into quarterly and annual data is undertaken.
3. Median rent data for dwellings by bedroom size is required to estimate these values for different sized dwellings in the Waikato region and the constituent TLA areas. This data is not reported in MBIE's rental bond data sets so these are estimated from NZ-wide data. This NZ wide data is taken from the data set 'Detailed quarterly report, January 2020 ....' This is a csv file which can be manipulated into an xls file. Data at a NZ-wide level is identified as Location Id '-99' and bond data including bond numbers, median and lower quartile rents for a variety of housing types is reported on a quarterly basis. The median rent data for 'All' Dwelling types and 1, 2, 3 and 4 'Number of beds' is extracted.
4. Data from all three sources has been combined in the 'Workings' spreadsheet to report summary data and the estimates of median rents by house size at a Waikato region wide and TLA area level.

MBIE tenancy bond data is reported and updated on a monthly or quarterly basis. This then allows the various measures of active bonds, median and lower quartile rents to updated at least on a quarterly basis and for these measures to be combined into other indicators as required.

The basis of housing related income support

The income model used in this report (and explained in the following appendix) applies the value of the Accommodation Supplement (AS) transfers received by households in the income and housing cost scenarios considered in the model - one in and one outside Hamilton. The value of these transfers is determined in the Social Security Act 2018[25] and is based in part on a set formula and in part on the application of maximum possible payments. Maximum payments are determined by a schedule in the Act and are applied against types of households and the AS 'area' they live in. These maximum payments are reported in Table 4.

The formula to calculate an AS a household may receive (subject to the application of maximums) is as follows:

> Value of AS payment = 0.7 x ((Weekly rent paid) (Household's weekly rent x 0.25))
>
> Thus, a household with a weekly income of $600 and rent of $300 receives
>
> 0.7x(($300-($600x0.25)) = 0.7x($300-$150) = 0.7x($150) = $105

The maximums are applied on a geographic basis and the AS related schedule has an extensive list of cities, suburbs and towns in each area. Generally larger urban areas including Hamilton, Cambridge, Taupō, and Te Awamutu are in Area 2 while other urban areas across Waikato are in Area 3. There are anomalies however, in that some small urban settlements near Auckland (Kaiaua for example) are in Area 2 while Tokoroa is not even in Area 3 so has a lower maximum applying in Area 4.

The complexity of applying the AS complicates any analysis of income adequacy on a local basis. So much so that the required assumptions around rents and available AS payments are so tentative that the results are not particularly robust. The results on income adequacy reported in the body of this report are only for Hamilton households. It is possible to use the housing costs and income adequacy model to estimate income adequacy in other towns in Waikato and there may be some value in WWP doing this for three or four representative towns.

[23] See http://bondhelp.tenancy.govt.nz/about-tenancy-services/data-and-statistics/rental-bond-data/

[24] File name 'Waikato rents analysis' and especially the worksheet 'Workings'

[25] See the Social Security Act 2018 Schedule 4 'Rates of benefits' Part 7 'Accommodation Supplement'. Available at https://www.legislation.govt.nz/act/public/2018/0032/latest/DLM6783115.html?src=qs

Appendix 3:

Background to income adequacy model

Results from the income adequacy model are reported in the section describing the income adequacy indicator. This indicator is based on data and analysis provided in the Excel file 'Income model' which is supplied with this report. This appendix outlines the format and content of this file and discusses some of the detailed workings in it. The purpose here is to assist analysts to update the indicator using the methodology and data sources offered in this file.

Overall structure of income adequacy model

The income adequacy model is made up of six spreadsheets and four graphs. The spreadsheets provide the summary data for the graphs and the graphs are included in the report above as part of the income adequacy indicator. The spreadsheets and their relationships are as follows.

Overall income model – this sheet is a summary of various contributing sheets and includes three tables and data for two graphs. The main table is a schedule of assessed household living costs by types of households and types of expenditure. The sources of these types of expenditure are presented in the main report on page 17. The second table presents the settings and adjustments which have been applied to this main table (discussed below). The third table compares household living costs and household incomes (discussed below) to derive a measure of income adequacy. This is the summary measure for this indicator and is expressed as dollars per week which a household has in surplus or deficit after allowing for its basic living costs. Data for three graphs – the Living costs graph, the HES graph and the Income adequacy graph are provided on this sheet.

HES 2023 data – this sheet is a copy of Table 4 of the 2023 Household Economic Survey published by Statistics New Zealand. In time this sheet should be updated with data from future HES results.

Equivalence scales – this table reports the equivalence scales which has been applied across the types of households. Such equivalence scales are applied in income and expenditure related measures to allow the comparison of the needs and resources of difference sizes of households. The scales reported in this sheet are taken from MSD's 2019 report Measuring Child Poverty Equivalence Scale[26]. The modified OECD scale referred to that report has been used in the income adequacy model. This scale has been re-based from the 'Couple with no children' (the base household in the OECD scale) to 'Couple with two children' household on which the healthy food basket is based.

Household incomes – this sheet comprises five sheets and data for one graph. The main table provides income scenarios for eight types of households. These households are the basis of the income adequacy model and are identified in the income adequacy graph. The income scenarios are based on assumptions around the sources and sizes of each household's income. These sources include pensions, benefits and wages as well as government supplementary payments through Working for Families and the Accommodation Supplement. The parameters for each of these sources of income are provided in additional tables and references in this sheet.

Food costs – this sheet includes the results of the food shopping survey reported in Appendix 1. These results have been included in the household living costs discussed above.

Housing model – this sheet essentially calculates the median rents used in the household living costs table provided in the 'overall income model' spreadsheet. These calculations are discussed in Appendix 2 and notes in this sheet offer additional guidance of how these median rents have been calculated. A further Excel data file 'Waikato rents analysis' provides the data and data sources which generate this 'housing model' spreadsheet. The file is also supplied with this report.

[26] Source: https://www.stats.govt.nz/methods/measuring-child-poverty-equivalence-scale

As noted above data for four graphs and the graphs themselves are also provided in the 'Income model' data file. These graphs are included as part of the income adequacy indicator and are as follows:

Equivalence graph – the application of the equivalence scale against the eight types of households considered in this model.

HES graph – types of expenditure by types of households reported in the Household Economic Survey.

Living cost graph – estimates of living costs for each of the eight household types offered in this model.

Income adequacy graph – a comparison of different household's incomes and their living costs to estimate the surplus or deficit in their residual incomes.

Settings and adjustments

Household living costs have been adjusted by the equivalence scales discussed above and by what has been labelled as a 'low-income household adjustment factor'.

Household expenditure patterns as measured by the HES are drawn from a sample of typical households. These households include high, medium and low-income households so the reported results are generally an average of the spending by these households. Low-income households don't of course spend at the same level as an average household so it is not realistic to compare spending levels reported in the HES with those likely to be experienced by low-income households.

To better align spending by low-income households with those reported in the HES an adjustment factor has been applied which acknowledges the lower income of these households. The adjustment factor varies between 60% and 75% and is applied against HES reported spending on everything except rent and food. All low-income household types except single parent households are assumed to spend at 60% of an average household's spend (on everything but rent and food). For single parent households this adjustment factor is 75% on account of the fact that such households overall have lower than average household incomes. This is because perhaps half or more of such households rely on benefits for their main source of income. This means that a typical low-income single parent household will spend at levels closer to the reported average for such households.

Appendix 4:

Background of the at-risk households indicator

This appendix offers an explanation of how the at-risk households indicator is compiled. This compilation is made in an Excel file “households at risk model’ which is provided with this report.

Overall approach taken

The diagram provided on Figure 15 outlines the model used to estimate the numbers of Waikato households at risk of food insecurity during the year to which the data relates. This diagram shows how the related model also estimates the number of children living in these at-risk households,

Essentially the model combines data on household structure from the most recent Census and applies this to data on material hardship from the most recent Household Economic Survey (HES).

The spreadsheets in the ‘households at risk’ file model compile Census 2018 data on household structure for New Zealand, Waikato region and Waikato TLA areas into a household format which is consistent with data reported from the HES. This HES data is not reported by Statistics NZ but by the Ministry of Social Development (MSD) in a series known as DEP-17. The DEP-17 series reports only material hardship rates and not relative poverty rates measured by various income comparisons. MSD publishes the DEP-17 data in its occasional releases of reports on income trends. The DEP-17 data for 2022/23 (the most recent) was provided to the authors by MSD on request and has yet to be published.

The material hardship measure of poverty tends to report lower poverty rates than other poverty measures such as relative income measures which are also reported in child poverty statistics published by Statistics NZ. The ‘Poverty comparisons graph’ provided in the “Households at risk model’ file shows this. The overlap between income and material hardship measures is not complete with some households in relative income poverty not suffering material hardship and some households experiencing material hardship not facing relative income poverty. This incomplete association suggests that the material hardship indicator (rather than relative income measures) is more appropriate as a proxy for food insecurity because the hardship indicator includes reference to households being assisted by a food bank as one of the measures.

Updating for 2023

The at-risk household indicator includes estimates of households and children facing food insecurity in 2023. These estimates used the DEP-17 indicator for 2022/23 and estimates of Waikato’s population and household structure in 2023. At the time of completion of this report, data from the 2023 Census on household structure had not been released although preliminary population counts including age breakdowns had been. This released data was applied to household data from the 2018 Census to approximate the household structure of Waikato’s population in 2023. These estimates are included in the ‘households at risk model file – on sheet ‘At risk 2023’.

Clearly when household data from the 2023 Census is released it will be possible to update the indicator with more accurate figures.

Further updates of the at-risk households indicators will depend on further publication of the DEP-17 indicator and reworking of the household structure of Waikato’s population between censuses. Availability of the DEP-17 indicator tends to be 12 months behind completion of the HES data collection. Timely access to the DEP-17 will require a specific request to MSD perhaps under the OIA. Reworking of household data could be based on regional population estimates which are published in October each year.

Waikato wellbeing project

Hinonga toiora o Waikato

Research . Knowledge . Storytelling

www.waikatowellbeingproject.co.nz