WA Food Stress Index

Partial update of the Western Australian Food Stress Index to incorporate changes in population demographics reported in the 2021 survey.

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The Food Stress Index

Food stress occurs when a person, couple of family have to spend more than 25% of their disposable weekly income on food. Food stress is an indication of increased likelihood of food insecurity, and, by geographic area, can be a useful tool to assist disaster planning and resource management.

Partial Western Australian Food Stress Index update, 2016 to 2021

Food stress occurs when a person, couple of family have to spend more than 25% of their disposable weekly income on food. Food stress is an indication of increased likelihood of food insecurity. The Food Stress Index was developed in 2017 with the impetus of Fair Food WA (formerly, the Western Australian Food Relief Framework Project) to identify ways to assist the sector to deliver safe and appropriate food relief in an equitable and coordinated way.

The Food Stress Index is a single number that is derived by combining multiple socio-economic indicators of advantage or disadvantage that are known to be associated with food insecurity and food affordability. For the purpose of the development of the index, food affordability is determined by applying food prices from the WA Food Access & Costs Survey (FACS) to a basic nutritious healthy meal plan and calculating the proportion of weekly household disposable income that would be needed to purchase the basked for the main family types in Australia. The FACS was first undertaken in 2010, and survey reports for 2010[1] and 2013 can be found here.

Despite price differences highlighted by geographic location, it was not until the Food Affordability Basket and concept of food stress was explored that the survey data became useful.

The protocol for the development of the Food Stress Index is published[2] and the 2016 Food Stress Index with food basket recommendations is available here. During the 2020 catastrophic bushfires the Food Stress Index was used to assist with approximating the types and amounts of food to be delivered for emergency management, lessons from this endeavour are found here[3]. The team also provided the 2016 Australian census data with household characteristics likely to be at a higher risk of food stress to all states and territory Health Departments during the early stages of the pandemic to assist with their food response planning and coordination.

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[1] Pollard, CM, T Landrigan, P Ellies, D Kerr, M Lester, & S Goodchild. (2014) Geographic factors as determinants of food security: a Western Australian food pricing and quality study." Asia Pacific Journal of Clinical Nutrition 23, no. 4 (2014): 703- 713.

[2] Landrigan, T. J., Kerr, D. A., Dhaliwal, S. S., & Pollard, C. M. (2019). Protocol for the development of a food stress index to identify households most at risk of food insecurity in Western Australia. International Journal of Environmental Researchand Public Health, 16(1), 79.

[3] Pollard, C. M., Landrigan, T. J., Gray, J. M., McDonald, L., Creed, H., & Booth, S. (2021). Using the food stress index for emergency food assistance: an Australian case series analysis during the CoViD-19 pandemic and natural disasters. International Journal of Environmental Research and Public Health, 18.13 6960

The Food Stress Index has also been used to determine the impact of removing the tax exemption on healthy food in the Goods and Services Tax (GST) on food stress[4], further highlighting its usefulness for policy and practice to improve food security for people rendered vulnerable due to their social or economic circumstances, geographic location and the price of food.

Changes in 2023

The review of the Food Stress Index was undertaken to update the dataset to incorporate the Australian Bureau of Statistics 2021 Census survey results.

Updating socio-demographic data by geographic location

The Statistical areas were revised based on best available evidence from the Australian Breau of Statistics Level 2 (SA2) 2021 data and incorporated new areas, however, in the absence of a recent Food Access & Cost Survey (FACS) dataset, the pricing component of the index has not been updated.

The last FACS was undertaken in 2013 statewide,and 2017 in the Perth metropolitan area only. This means that the values for regional and remote areas in Western Australia was imputed in 2017 and this was used to construct the 2017 Food Stress Index that was used to support disaster relief during the Australian Bushfires and the early stages of the COVID-19 pandemic.

Of note is that the true food prices in regional, remote or very remote Western Australia and in the remote community stores have not been collected since 2013, a decade ago. Given the rising cost of living and other changes in characteristics, it is essential that this survey be conducted again and the Food Stress Index be updated with this data.

Table 1 on the next page outlines the Partial Western Australian Food Stress Index update from the 2016 to the 2021 census data.

[4] Landrigan, T. J., Kerr, D. A., Dhaliwal, S. S., Savage, V., & Pollard, C. M. (2017). Removingthe Australian tax exemption on healthy food adds food stress to families vulnerable to poor nutrition. Australian and New Zealand Journal of Public Health, 41(6), 591-597.

Table 1. Partial* Food Stress Index for Statistical Areas in Western Australia by quintile, ranging from 1 (least likelihood of food stress) to 5 (most likelihood of food stress).

Food Stress Index Quintile	Western Australia Statistical Areas
1	Applecross—Ardross Ashburton Booragoon Claremont East Perth Glen Forrest - Darlington Greenwood—Warwick Innaloo—Doubleview Karrinyup - Gwelup - Carine Karratha Mount Hawthorn—Leederville Murdoch—Kardinya Newman Perth (North) – Highgate Perth (West) – Northbridge Ocean Reef Subiaco—Shenton Park Success—Hammond Park Wembley—West Leederville—Glendalough Wembley Downs—Churchlands—Woodlands
2	Australind—Leschenault Banjup Beechboro Beeliar—Wattleup Belmont—Ascot—Redcliffe Bentley—Wilson—St James Byford Carramar Casuarina—Wandi Coolbellup Craigie—Beldon Donnybrook—Balingup Eaton—Pelican Point Esperance Region Fremantle Harrisdale

	Hocking—Pearsall Kalgoorlie Landsdale Margaret River Murray North Coogee Piara Waters—Forrestdale Rivervale—Kewdale—Cloverdale South Bunbury—Bunbury South Perth—Kensington Thornlie The Vines Victoria Park—Lathlain—Burswood
3	Albany Alkimos—Eglinton Augusta Baldivis—North Baldivis—South Brabham—Henley Brook Busselton Surrounds Busselton—East Butler—Merriwa—Ridgewood Cannington—Queens Park Capel College Grove—Carey Park Dardanup Denmark East Bunbury—Glen Iris Ellenbrook Esperance Geraldton—North Gingin—Dandaragan Gnowangerup Harvey Karnup Little Grove – Elleker Maddington—Orange Grove—Martin Madeley - Darch Mandurah East Mandurah North Manjimup Pinjarra Rockingham Serpentine—Jarrahdale Singleton—Golden Bay—Secret Harbour

	Straton - Jane Brook Two Rocks Wanneroo Sinagra Wellard (West)—Bertram
4	Alexander Heights—Koondoola Beckenham—Kenwick—Langford Busselton – West Bridgetown—Boyup Brook Broome Dowerin Exmouth Kambalda—Coolgardie—Norseman Kojonup Kulin Merredin Moora Mukinbudin Narrogin Northam Pemberton Roebourne
5	Armadale—Wungong—Brookdale Calista Carnarvon Cooloongup Derby—West Kimberley East Pilbara Geraldton Girrawheen Gosnells Halls Creek Kununurra Leinster—Leonora Meekatharra Parmelia—Orelia Plantagenet Roebuck

*Partial update is due to the absence of revised pricing data.

Conclusion and recommendations

The partially updated Food Stress Index suggests areas susceptible to food stress remain relatively consistent and incorporates new areas, however, results will need to be socialised with the sector. Also, as food pricing and quality of food across Western Australia, particularly in regional and remote areas is not included in the review, it is recomme nded this data be collected and a 2024 Australian Food Stress Index be develope

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