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Food security, gender and resilience in the Solomon Islands

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Note: This document was originally created during the IDM phase, which was a partnership between the Australian National University, International Women's Development Agency and the Department of Foreign Affairs and Trade. The World Food Programme provided additional funding for the Solomon Islands study. Image credit: Woman selling betel nut at the local market in the village of Seghe, Solomon Islands via iStock.

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June 2020¹



The Individual Deprivation Measure (IDM) is an individual-level, gender-sensitive measure of multidimensional poverty that provides unique insights into the factors shaping poverty and vulnerability. By sampling multiple individuals within a single household, the IDM provides information about the circumstances of women and men across 15² economic, social, and environmental dimensions, including insights into inequalities within households.

Sustainable Development Goal 2 is to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Food insecurity is a critical issue in the Solomon Islands, particularly for rural communities.³ Data from a new quantitative measure developed by the United Nations World Food Programme (WFP) and Gallup Inc. “to illuminate the interconnectedness of dis/empowerment and food in/security”, the Gender Equality for Food Security (GE4FS) measure, demonstrates the importance of understanding the relationship between gender inequality and food insecurity.⁴

Alongside gender, other factors are associated with food insecurity, including demographic factors such as age and disability; and location, such as living in an urban or rural area. As food insecurity does not happen in isolation from factors associated with poverty and inequalities, it is important to understand food insecurity in the contexts in which it occurs. This necessitates identifying the deprivations that deepen disadvantage and act as barriers to sustainable development and the full and free exercise of human rights.

Multidimensional poverty data illuminate a mix of factors that shape deprivation. Gender-sensitive multidimensional poverty data that can be disaggregated by sex, age and disability help to reveal the influence of gender and other factors on economic, social, and environmental circumstances.

Without such data, it is not fully possible to see how circumstances and vulnerabilities vary. With such data, the persons most at risk of hunger and poverty are made visible, which allows policy makers to design actions that will enhance the resilience of particular populations.

This brief presents an exploratory analysis of factors associated with food insecurity⁵ in the Solomon Islands. Data were collected from 1862 women and men in the Central and Guadalcanal Provinces between February and April 2020, via the IDM survey, in partnership with *Dignity Pasifik*.⁶ The focus of the Solomon Islands IDM study was to understand how the circumstances of men and women underpin the relationship between food security, gender, and resilience.

Approximately 81 percent of the Solomon Islands population lives in rural areas and relies on agriculture for their livelihoods.⁷

The 2012/13 Household Income and Expenditure Survey reported that around 76 percent of households nationally, and 85 percent of households in rural areas, derive their cash incomes from four main subsistence-based activities: agriculture (including forestry), fisheries (including gathering/harvesting), livestock and handicrafts (including home processing of food).⁸

1. The relative importance people attach to food insecurity varies by location

The IDM survey asked individuals questions about their economic, social, and environmental circumstances. At the end of the survey, respondents were also asked to rank the 14 IDM dimensions in order of relative importance to them and their lives. The information about relative priority provides context for the initial analysis of results presented in this brief.⁹

The map below shows the average importance ranking of food in the sampled wards¹⁰ of the two provinces in which the IDM was administered. The darker the colour, the higher food was ranked, on average, as an important concern.¹¹

Food was ranked as highly important in all wards around Tulagi, with variation in its importance across the rest of Guadalcanal. The relative importance of food security was highest in Tandai. The average importance of food was relatively low in both wards of the Russell Islands.

The percentage of participants who rated food as their first priority dimension was highest in Tandai and Tulagi.

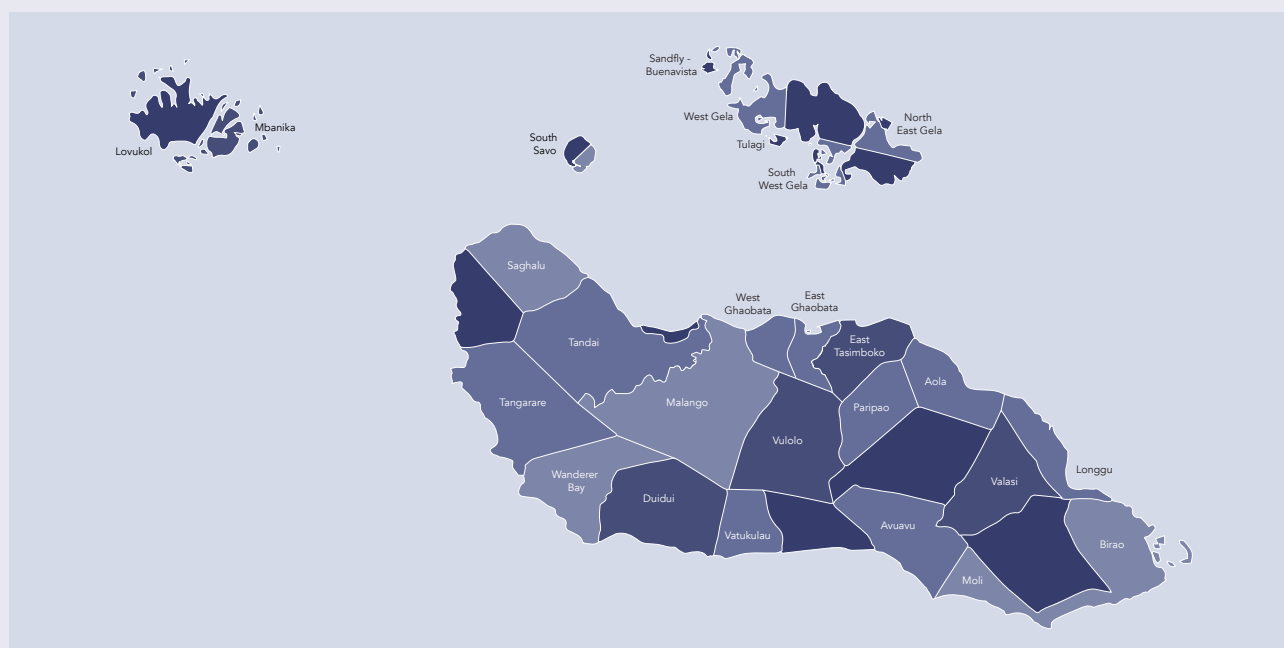


Figure 1. IDM survey participants' ranking of the importance of food as a concern in their lives. Darker colours represent higher relative ranking of food as a priority.¹²

2. Gender differences vary by age, and by severity of food insecurity

Overall, the majority of persons surveyed either experienced no food insecurity, or severe food insecurity (Figure 2). Further, the three most common types of food insecurity were: being worried about not having enough food to eat; being unable to eat healthy and nutritious food, and eating only a few kinds of food (Figure 3). More severe forms of food insecurity were also experienced, with 17 percent of respondents having gone a full day and night without food in the month preceding the survey.

Men were, on average, more food deprived than women; that is, they were more likely to experience food insecurity. This pattern held across the 8 items of the FIES scale (Figure 3). The gender difference effectively disappeared when severe food insecurity was experienced by women and men. The 12 percent difference between women (38%) and men (26%) in the least (food) deprived category, reduced to 2% for the women (28%) and men (30%) who were most food deprived (Figures 2 & 3). This pattern – of reduction in gender difference as the severity of food insecurity increases – holds for the eight individual items of the FIES.

Neither men nor women are, however, homogenous groups. Analysis of the data only by gender hides a different pattern of food insecurity by gender and age. Through younger and middle ages, men report experiencing more food insecurity than women. **When women and men are older than 60 years, the gender difference in food insecurity switches, with older women more likely to be food insecure than older men. Across gender and age, younger men are the group most vulnerable to food insecurity.**

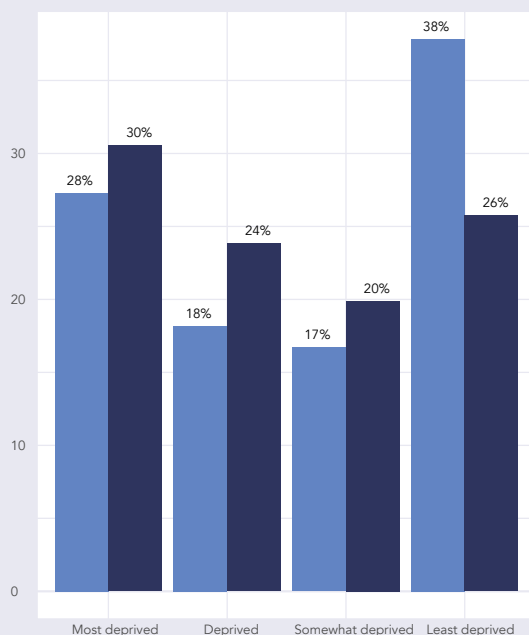


Figure 2. Percentage of men and women within each category of IDM food deprivation

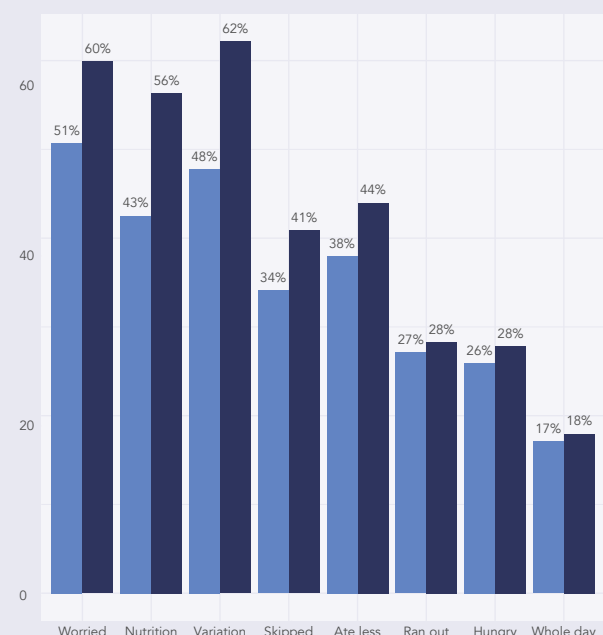
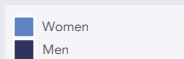
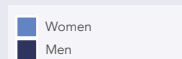


Figure 3. Percentage of men and women responding 'yes' to each item on the FIES



3. Food insecurity varies by province, with gender differences within and between provinces

People in Central Province reported far more severe food insecurity than in Guadalcanal. Both provinces had roughly equal percentages of persons categorised as least deprived in food (30% Central, 32% Guadalcanal). People in Central were, however, more likely to experience severe food insecurity than persons living in Guadalcanal. In Central, 40 percent of the persons sampled were categorised as most deprived in food, compared to 26 percent of persons in Guadalcanal.

The pattern in gender differences noted earlier held for each province: while men experienced more food insecurity than women overall, the gender difference effectively disappeared for the most food insecure men and women. In Central Province, a 14 percentage-point difference between men (23%) and women (37%) who experienced no food insecurity narrowed to a 2 percentage-point difference between men (41%) and women (39%) who experienced severe food insecurity.

Although participants living in Guadalcanal experienced less food insecurity overall, the same pattern was observed as Central: 27 percent of men and 38 percent of women experienced no food insecurity (an 11 percentage-point gap), while 27 percent of women and 24 percent of men experienced severe food insecurity (a 3 percentage-point gap).

This pattern could also be clearly observed at the item-level of the FIES (Figure 5), and previous patterns describing food insecurity by gender and age also held within each province (Figure 6).

Figure 4. Percentage of men and women within each category of IDM food deprivation by province

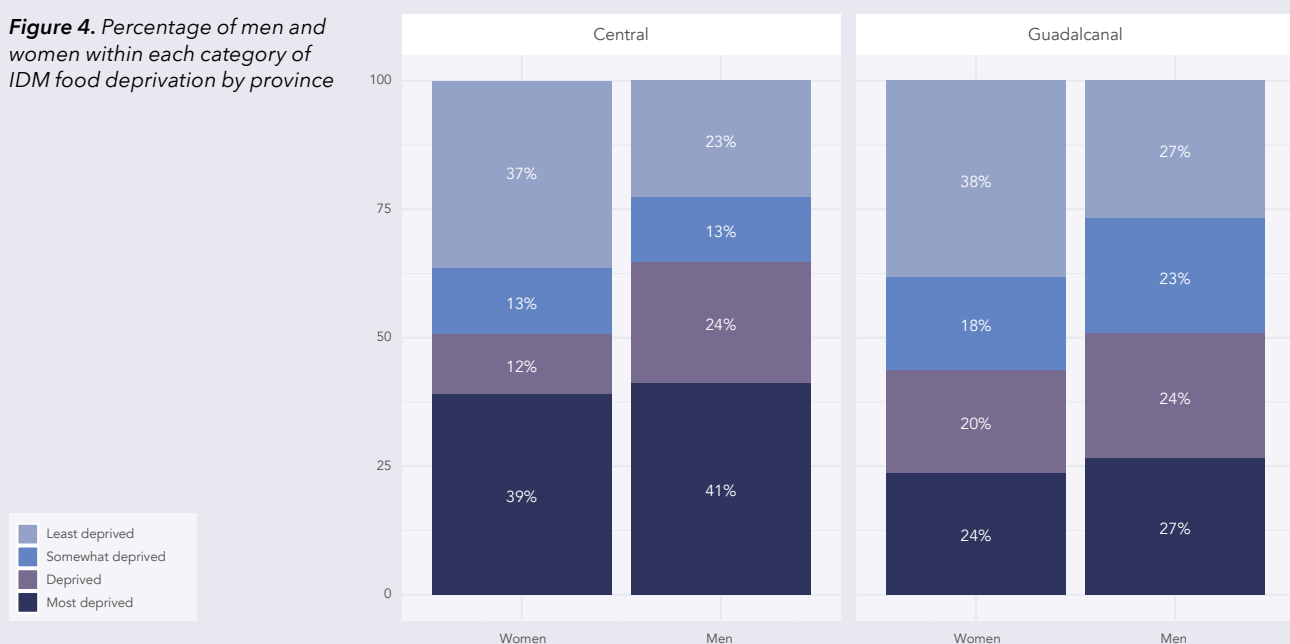
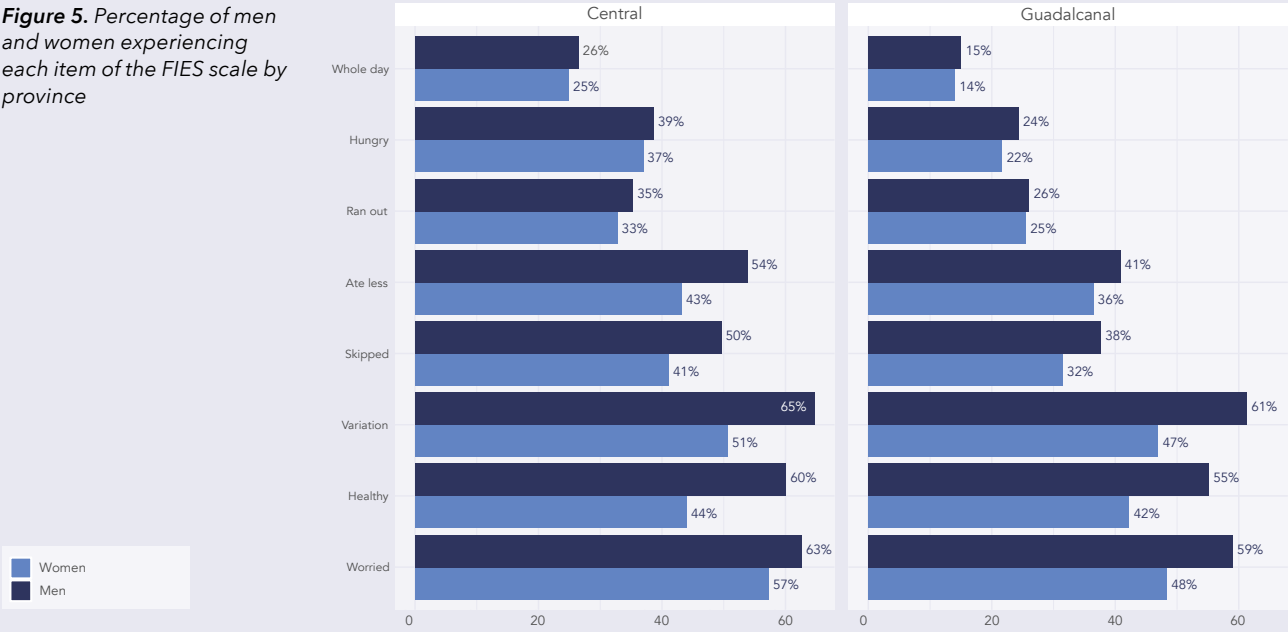


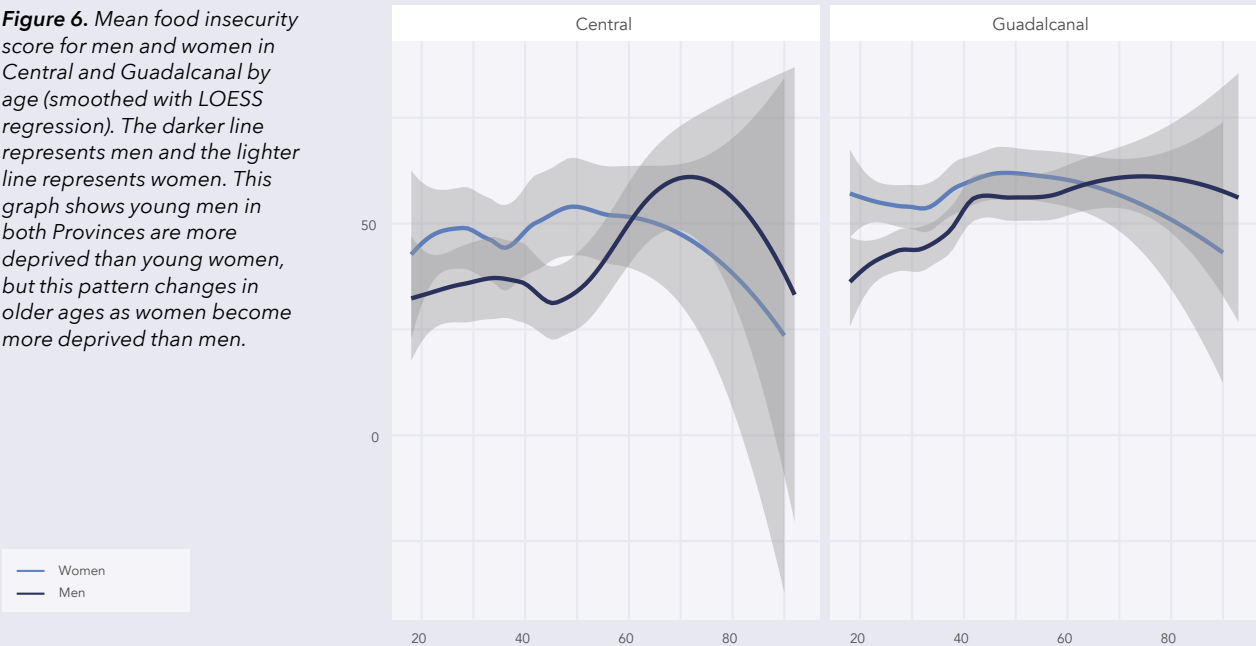
Figure 5. Percentage of men and women experiencing each item of the FIES scale by province



41 percent of men and 39 percent women experienced severe food insecurity in Central Province.

The gap between men's and women's deprivation was smaller for the most food insecure.

Figure 6. Mean food insecurity score for men and women in Central and Guadalcanal by age (smoothed with LOESS regression). The darker line represents men and the lighter line represents women. This graph shows young men in both Provinces are more deprived than young women, but this pattern changes in older ages as women become more deprived than men.



4. People with disabilities are more likely to experience severe food insecurity, and older women are more likely to have a disability

Across the two provinces, people living with a disability were more likely to have experienced severe food insecurity than people without a disability. Of the persons surveyed who had a disability, 32 percent were in the most (food) deprived category, compared to 29 percent of people without a disability. Combining the categories of deprived and most deprived, 57 percent of people living with a disability were moderately or severely food insecure, compared to 50 percent of people without a disability (Figure 7).

Unpacking this finding revealed **more women (12%) than men (6%) in the sample had a disability**, and **older women were the most likely to have a disability** (Figure 8). Disability, as measured by the Washington Group Short Set,¹³ tends to overlap with age when purposive sampling of people with disabilities is not conducted. Accordingly, although these results provided an initial insight into the interaction between disability, gender, and age in food insecurity, small cell sizes discourage more concrete conclusions.

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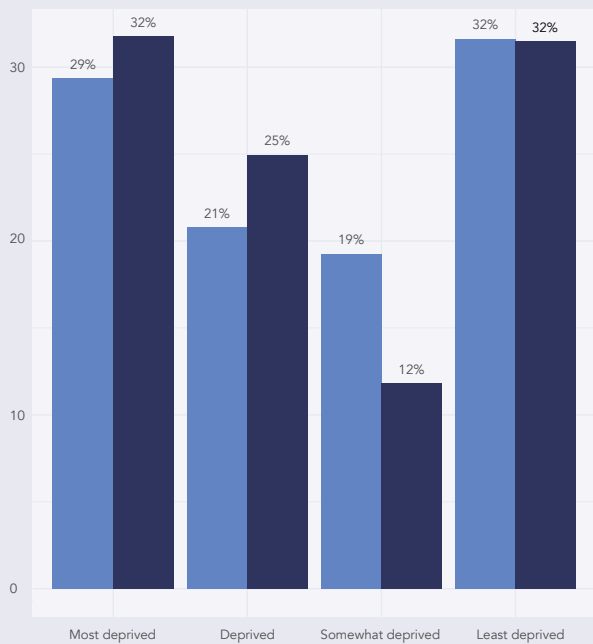


Figure 7. Distribution of IDM food deprivation categories by disability

Without disabilities
With disabilities

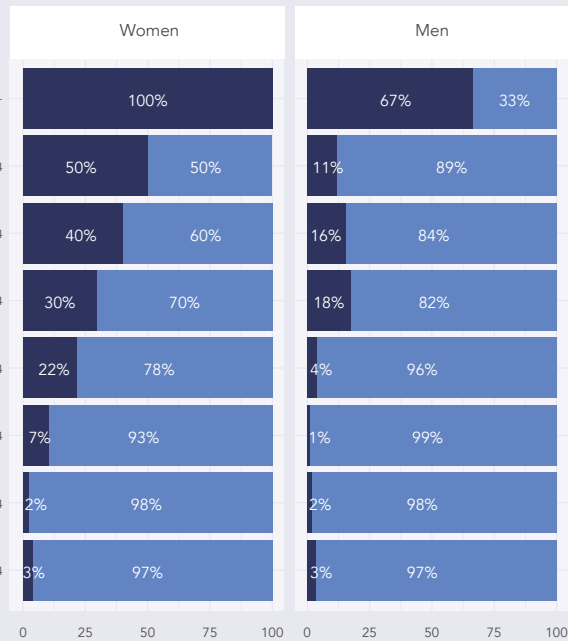


Figure 8. Percentage of men and women identified as having a disability at different age groups, measured by the WG-SS. Note that small numbers of older adults will impact the reliability of estimates for respondents over 64.

5. Food insecurity is strongly associated with anxiety, and this relationship is stronger for women

As the severity of food insecurity increased, so did the frequency with which anxiety was experienced. Of the persons surveyed who reported never experiencing anxiety, 53 percent were in the least (food) deprived category, compared to nine percent of persons who experience anxiety daily (Figure 9).

For women who had never experienced anxiety, 58 percent also experienced no food insecurity, compared to 50 percent of men. In isolation this could have been explained as an artefact of men experiencing more food insecurity. However, of the women who experienced daily anxiety, 75 percent were food insecure; while among the men who experienced daily anxiety, a lower 54 percent were food insecure.¹⁴

The stronger association between anxiety and food insecurity for women than men may reflect an affective component of deprivation linked to women's gendered responsibilities for feeding families.¹⁵

The association between anxiety and food insecurity may reflect a broader relationship between mental health and poverty.

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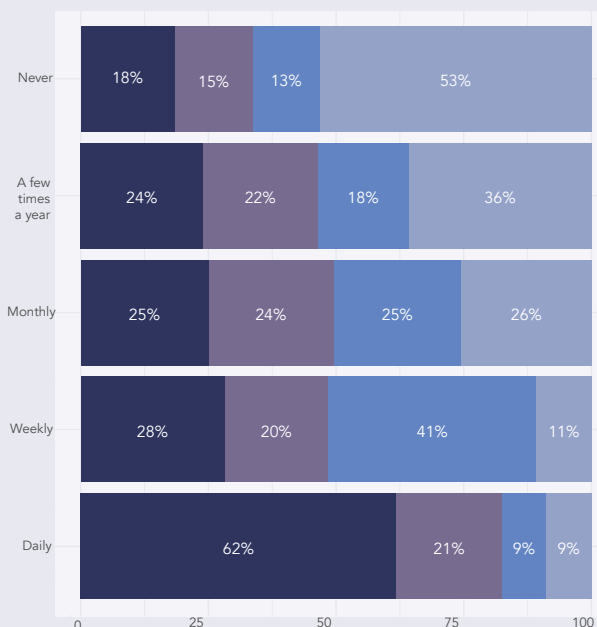


Figure 9. Percentage of respondents experiencing food deprivation within reported levels of anxiety

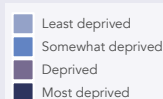
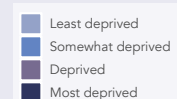


Figure 10. Percentage of men and women experiencing food deprivation within reported levels of anxiety



6. Food insecurity is associated with several dimensions of poverty

This brief has focussed on patterns of food insecurity by location, gender, age and disability. The relationships between food insecurity (as one dimension of poverty) and the other economic and social dimensions of the IDM were also explored.

In terms of physical health, the data indicated a relationship between having a short-term health problem and experiencing food insecurity, and this relationship was stronger for women (Figure 11).

Of people who experienced a short-term health problem in the previous month, 36 percent also experienced severe food deprivation, compared to 27 percent of the respondents who did not have a health problem. For women, this relationship was magnified: 36 percent of women who experienced a short-term health problem also experienced severe food insecurity compared to 24 percent of women without a health problem, whereas 35 percent of men with a health problem also experienced severe food insecurity (Figure 11).

A relationship was also detected between the ability to express concerns at the community level and food insecurity. **People with less voice in their community also reported experiencing more severe food insecurity than people who felt comfortable expressing their views.** For example, 33 percent of people surveyed who found it 'very difficult' to raise issues in their community¹⁶ experienced the most severe level of food insecurity, compared to only 19 percent of persons who found it 'very easy' to raise concerns in their communities.

The overlap between being deprived of voice in the community and food insecurity also varied by gender: 28 percent of women experienced severe food insecurity overall, but 36 percent of women most deprived in community voice also experienced severe food insecurity. Among men, 30 percent experienced severe food insecurity overall, but 39 percent of men most deprived in voice also experienced severe food insecurity (Figure 12).

Finally, data revealed a relationship between food security and resilience. Across the two provinces, the people who had experienced a major problem or shock in the previous year were more likely to have experienced food insecurity, than for individuals who had not recorded such an event.

The difference is particularly striking in Central Province, where 47 percent of the persons who experienced a major problem or shock also experienced the most severe food insecurity, compared to 32 percent of the people surveyed who did not have such an experience (Figure 13).

Women who had experienced a shock were more likely to also experience severe food insecurity (32 percent) than women who had not (23 percent) (Figure 14). The difference was smaller for men, with 33 percent of respondents who had experienced a shock also experiencing severe food insecurity, compared to 27 percent of respondents who had not experienced a shock. 42 percent of women who had not experienced a shock also experienced no food insecurity, compared to 34 percent of those who had experienced a shock. For men, this difference was even greater with 33 percent of respondents who hadn't experienced a shock also experiencing no food insecurity. Only 19 percent of men who had experienced a shock experienced no food insecurity.

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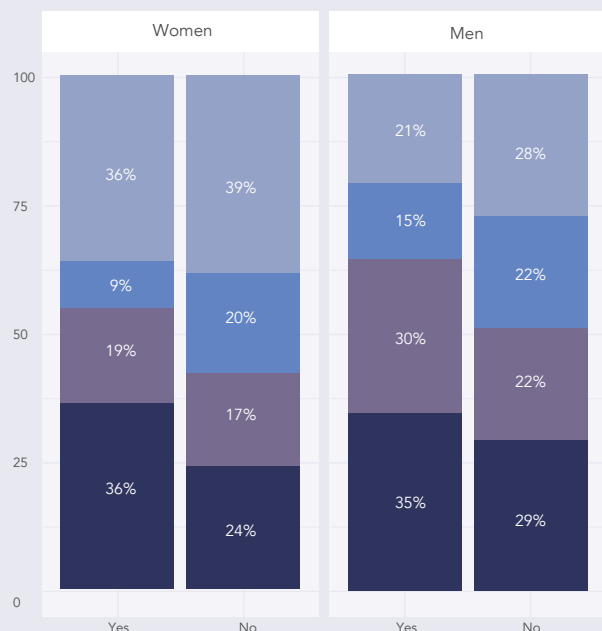


Figure 11. Food deprivation (percent in each category) experienced by men and women who have also experienced short term health problems ('Yes') or not ('No')



Figure 12. Food deprivation (percent in each category) experienced by men and women who are also deprived in community voice (horizontal bands denote level of voice deprivation)

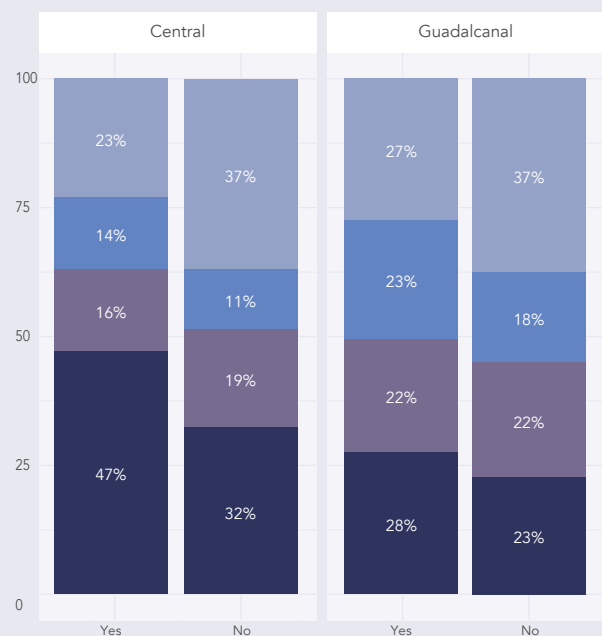


Figure 13. Food deprivation (percent in each category) experienced by respondents from Central or Guadalcanal who have also experienced a shock in the previous year ('Yes') or not ('No')

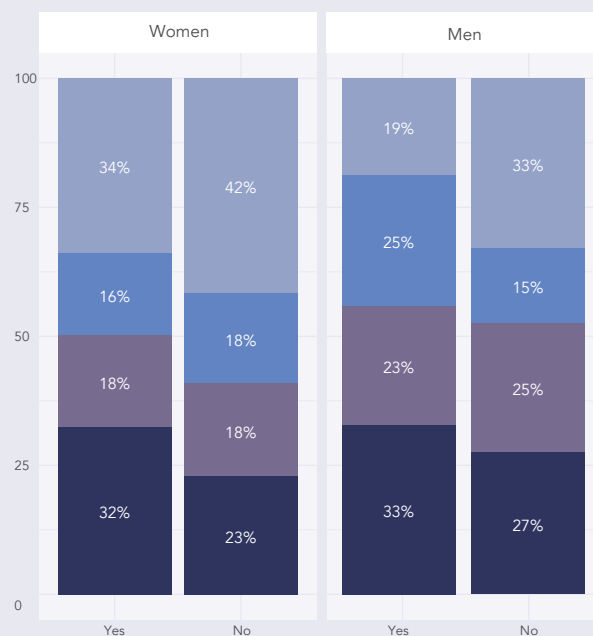


Figure 14. Food deprivation (percent in each category) experienced by men and women who have also experienced a shock ('Yes') or not ('No') in the previous year

Reflections

The IDM data collected in the Solomon Islands are cross-sectional. This means that causal direction cannot be inferred, for example, we cannot conclude that food insecurity causes anxiety, only that the two are associated. It is probable, however, that the relationships between any two dimensions are bi-directional. For example, experiencing food insecurity reduces the likelihood of attending a community meeting; and not being able to advocate for your needs and priorities during community meetings means that food insecurity is more likely to continue. That is, while cause and consequence may be circular, a common factor underlying the observed relationships is poverty.

Next, food security is vital for survival and resilience. The data shared in this brief indicate that a range of factors are associated with the experience and severity of food insecurity – gender, age, location, health, voice. Assessing food insecurity in isolation from other factors that shape people's lives may result in insufficient attention to the multiple challenges and barriers faced by women and men experiencing food insecurity in the Solomon Islands.

The data reveal multiple overlapping factors associated with the experience of food insecurity. The relationships between the factors show different patterns for women and men, providing initial evidence that the experience of food insecurity is shaped both by gender and by other aspects of people's lives. Multidimensional data collected inside households begins to reveal these interwoven relationships, and cautions against considering food insecurity in isolation from women's and men's health, voice, relationships, and resilience.

Finally, climate change is increasing the frequency and severity of shocks experienced by people in the Solomon Islands. Data such as those presented here, which consider the particular situations of men and women, are vital for understanding the relationships between food security, gender and other dimensions of life that perpetuate poverty, and priorities for enhancing the capacities that necessary for long-term resilience.

Summary observations

1. Although rarely considered a vulnerable group, young men reported experiencing the highest levels of food insecurity in Central and Guadalcanal Provinces. These results require further investigation, including their relationship with material and social dimensions of poverty, as well as gender norms, roles and responsibilities.
2. Persons living in Central Province are more likely to experience food insecurity than individuals living in Guadalcanal, despite ostensibly having more access to sustainable fishing and agriculture practices. Provincial differences are significant and should be taken into account when designing programmes aimed at increasing resilience to disasters and food security.
3. Food insecurity is associated with several poverty-related variables. Multidimensional analyses that integrate gender can reveal the depth of inequality at the intersections of multiple deprivations.

Assessing food insecurity in isolation from other factors that shape people's lives may result in insufficient attention to the multiple challenges and barriers faced by women and men experiencing food insecurity in the Solomon Islands.



Endnotes

- 1 Brief updated February 2021 to address minor errors in code to generate graphs, resulting in small changes to figures across the brief.
- 2 The 15 dimensions of the Individual Deprivation Measure are food, water, shelter, health, education, energy/fuel, sanitation, relationships, clothing, violence, family planning, environment, voice, time-use and work. The IDM Solomon Islands study did not administer the violence dimension due to ongoing methodological revision.
- 3 FAO and SPC. 2019. *Country gender assessment of agriculture and the rural sector in Solomon Islands*. Honiara.
- 4 WFP Gender Office, 2020. *The Power of Gender Equality for Food Security: Closing another gender data gap with a new quantitative measure*. Rome: World Food Programme, p. 10. The GE4FS measure is a globally-applicable instrument that combines the Food Insecurity Experience Scale (FIES) with 18 questions exploring five dimensions of personal empowerment: decision-making ability, financial self-sufficiency, freedom from violence, reproductive freedom and unpaid labour. The GE4FS measure focuses at the individual level 'because gender and food - and the associated inequalities and insecurities - are two elements of the daily lives of all persons, and elements which are not captured by the prevailing household measures and population indices.' (p.11) The 2020 full and summary reports are available at <https://www.wfp.org/publications/power-gender-equality-food-security>
- 5 The IDM uses the Food Insecurity Experience Scale (FIES) items to assess deprivation in food. The FIES has been designed as a global standard for intercountry comparison. It has been extensively validated and is one of the tools for measuring Sustainable Development Goal 2. The FIES is designed to focus on individuals' "food-related behaviours associated with difficulties in accessing food due to resource constraints". Ballard, TJ, Kepple, AW, Cafiero, C & Schmidhuber, J 2014, 'Better measurement of food insecurity in the context of enhancing nutrition', *Ernährungs Umschau*, vol. 61, no. 2, pp. 38-41.
- 6 The Individual Deprivation Measure Program (2016-2020) is a partnership between the Australian National University and the International Women's Development Agency, with funding from the Australian Government through the Department of Foreign Affairs and Trade. Information at: <https://www.individualdeprivationmeasure.org>. The Solomon Islands IDM study was undertaken with additional support from the World Food Programme. This brief was written by Kylie Fisk with contributions from IWDA IDM team members Carol McNerney, Joanne Crawford, Joanna Pradela and Hannah Bambra, and WFP contributions from Jacqueline Paul. Data collection was undertaken by Dignity Pasifik. A Research Steering Committee comprising representatives from government and civil society in the Solomon Islands provided guidance and facilitation.
- 7 FAO and SPC, 2019, p.43.
- 8 National Statistics Office, 2015, Solomon Islands 2012/13 *Household Income and Expenditure Survey*, National Analytical Report (1), Honiara.
- 9 In time further analyses will be done to explore the relationship between circumstances and priorities. Information about relative preferences (of individuals and particular social groups) also makes it possible to vary the relative significance of particular dimensions in calculating an overall IDM score.
- 10 Wards are administrative boundaries one level below provinces.
- 11 Wards not sampled are coloured grey.
- 12 Note: this map depicts participants' ranking of the importance of food as a concern in their lives, not their level of food insecurity.
- 13 "Washington Group questions are designed to provide comparable data cross-nationally for populations living in a variety of cultures with varying economic resources. The WG Short Set of questions were developed primarily for use in national censuses or surveys which are on topics other than disability... It is intended that the Short Set will identify the majority of persons in the population who are at greater risk than the general population of experiencing limited or restricted participation in society. The questions cover six domains of functioning: seeing, hearing, walking, cognition, self-care, and communication." Where more information about disability is required, the Extended Set on Functioning is recommended. The IDM survey incorporates the extended set of questions, which cover vision, hearing, mobility, cognition, affect (anxiety & depression), pain, fatigue, communication, upper body functioning, functioning with and without the use of devices/aids where applicable, age at onset of functional difficulty, and environmental factors that may influence functioning and/or participation. <http://www.washingtongroup-disability.com/washington-group-question-sets/extended-set-of-disability-questions/>
- 14 Small numbers of those experiencing daily anxiety render this a trend rather than a statistically significant difference.
- 15 The research report from the original research to develop the IDM identified this affective component of deprivation. In some sites where participatory research was undertaken, 'participants suggested that women bore a disproportionate burden when food or water was scarce because they were responsible for feeding and cleaning the children. It is important to note that these social roles bring an important affective component to the deprivation: it is not just that the woman is frequently expected to care for the children, and thus bears greater burdens when resources are scarce. She will feel much worse if her children are deprived.' Wisor, S, Bessell, S, Castillo, F, Crawford, J, Donaghue, K, Hunt, J, Jaggar, A, Liu, A & Pogge, T, 2014. *Individual Deprivation Measure - a gender sensitive approach to poverty measurement*. Melbourne. International Women's Development Agency, p.18.
- 16 Measured by a question that asks respondents how easy or difficult it is to raise their concerns at the local community level.

Individual Deprivation Measure Partners:



Australian
National
University



IDM Solomon Islands Study Partner:



World Food
Programme