

Factors affecting food choice and the food environment during COVID-19: A cross sectional study in Samoa

Dr Ramona Boodoosingh¹, Dr Sarah Burkhardt^{2,3}, Dr Dana Craven², Leslie Panapa¹

¹ Faculty of Nursing, National University of Samoa. ² Australian Centre for Pacific Islands Research, USC. ³ School of Health and Sports Sciences, USC.

Acknowledgements

- Translators: Leslie Panapa, Saunima'a Ma Fulu Aiolupotea
- Field Coordinators: Waiketi and Mika
- All of the participants who kindly took part in this study
- Funded by USC

- The COVID 19 pandemic has affected all systems including the food system.
- In the PICs globalization, and increased cash based economies have accompanied an increased reliance on imported, highly processed foods[6] and a corresponding risk to food security and public health[7].
- In an analysis of a 2018 nationally representative report, it was estimated at 26.8% of population was experiencing moderate to severe food insecurity and that 18.8% of the population was below the poverty line[8]. In children under the age of 5 years, the prevalence of wasting was 3.7%, stunting 4.7% and obesity 5.4%[8]. 39% of the food consumed came from cereals and meat, mainly imported products – rice/bread and chicken[8].
- Although a recent study was conducted on the impact on farmers, market, vendors and consumers in several PICs, including Samoa, currently there is no published study that describes specific food behaviours as a result of COVID 19.

This study seeks to address this gap in knowledge, by examining perceptions of:

- food pricing,
 - food availability,
 - barriers to cooking methods,
 - foods consumed, and
 - culturally contextual practices such as bartering and sharing and emergent practices such as bulk buying,
- as a result of COVID-19

**Today we will be focusing on food pricing, availability, food consumption*

- Observational cross-sectional study design, across 5 weeks (mid November – mid December 2020)
- Modified strategy: 34 third year nursing students and 2 nursing faculty distributed surveys in their communities → returned them to student coordinators (one for Upolu and one for Savaii)
- Snowball sample of adults across Upolu and Savaii.
- Participant completed survey
- Eligibility criteria included adult residents of Samoa able to read/speak English or Samoan
- Ethical approval for this project was provided by the National University of Samoa (15-11-18-1.)

Survey questions included;

- Self-report demographics
- Perception of changes to the food environment and food security (FIES) prior to and during the COVID19 emergency measures
- Perception of impact of COVID-19 on:
 - facilities, amenities,
 - food availability,
 - barriers to cooking and/or baking,
 - consumption of food groups (protective foods, body building foods, energy foods, food and drink choices that are high in fat, salt and/or sugar and other drinks) since the COVID state of emergency
 - changes in practices (storage, bulk buying and sharing/bartering
- Open and closed questions

Participant characteristics

- 197 adult Samoans
- 61% married, 25% single, 14% divorced/widowed or prefer not to say
- 49% completed University, 46% Secondary school

Table 1. Participant characteristics

	Urban	Rural		
Location[^]	Apia Urban (n=53)	North West Upolu (n=57)	Rest of Upolu (n=34)	Savai'i (n=44)
Age in years (mean, range)	39.27 (21 – 79)	40.02 (19 – 73)	43.27 (23 – 61)	39.73 (23 - 69)
Gender* n (%)				
Female	32 (60)	31 (54)	24 (71)	17 (39)
Male	20 (38)	23 (40)	9 (26)	20 (46)
Fa'afafine	-	2 (4)	1 (3)	2 (4)

[^]9 did not provide location, * 8 reported 'prefer not to say' or was not recorded

Food pricing and availability


Overall, 40% reported that in general food prices , 11%  and 32% remained the same

Figure 1. Proportion of participants reporting on price of food

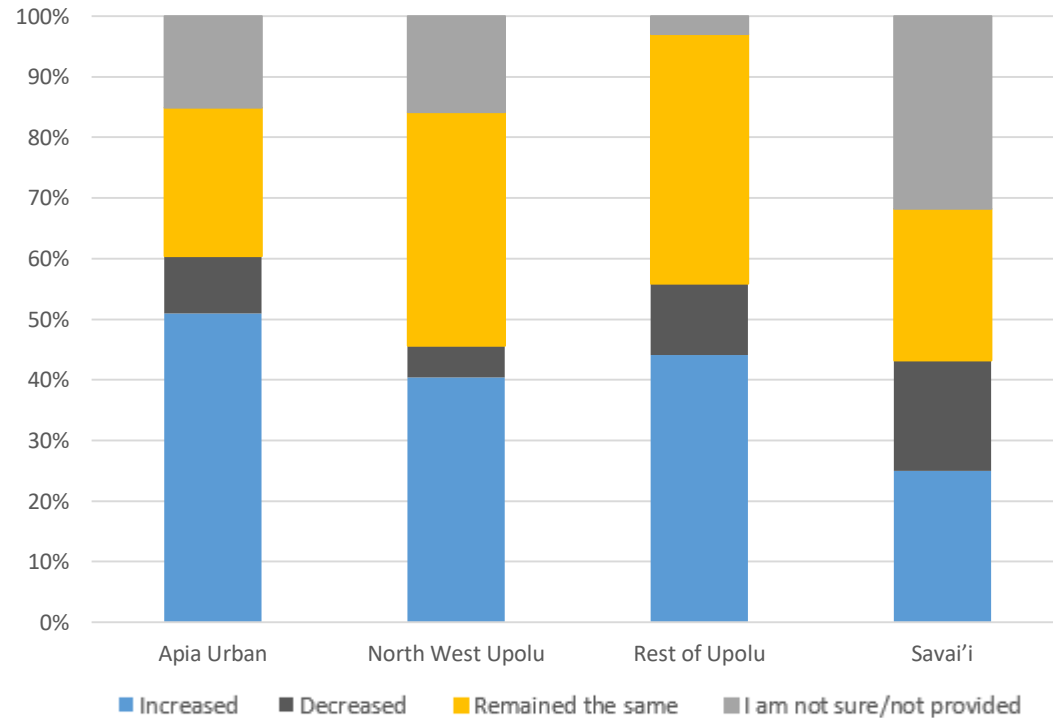
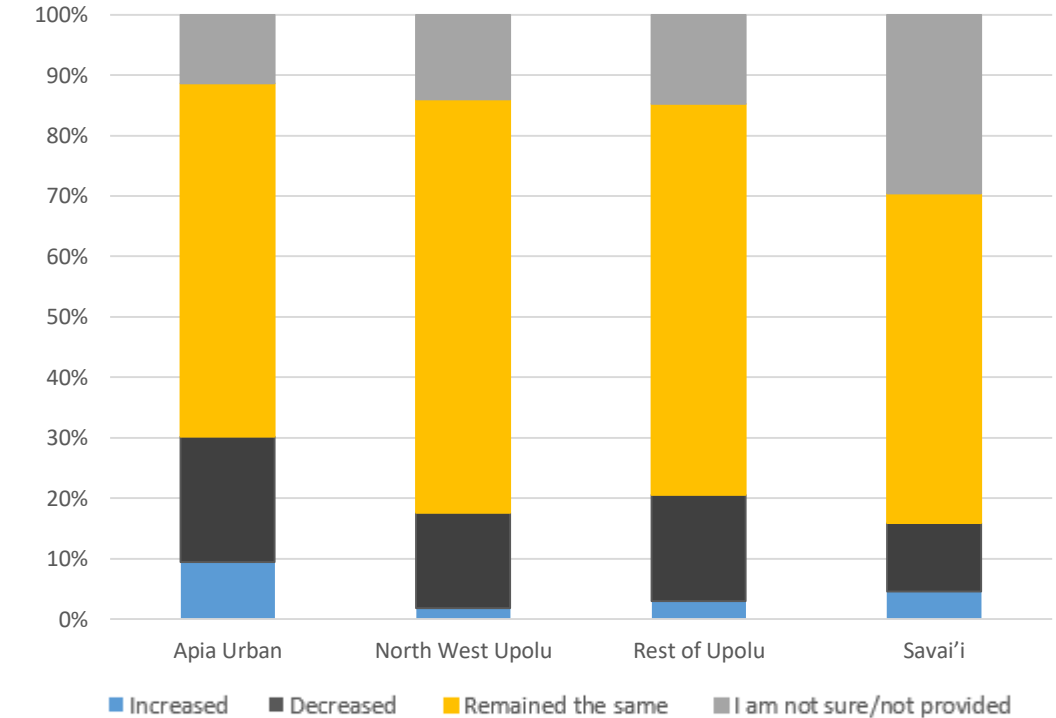
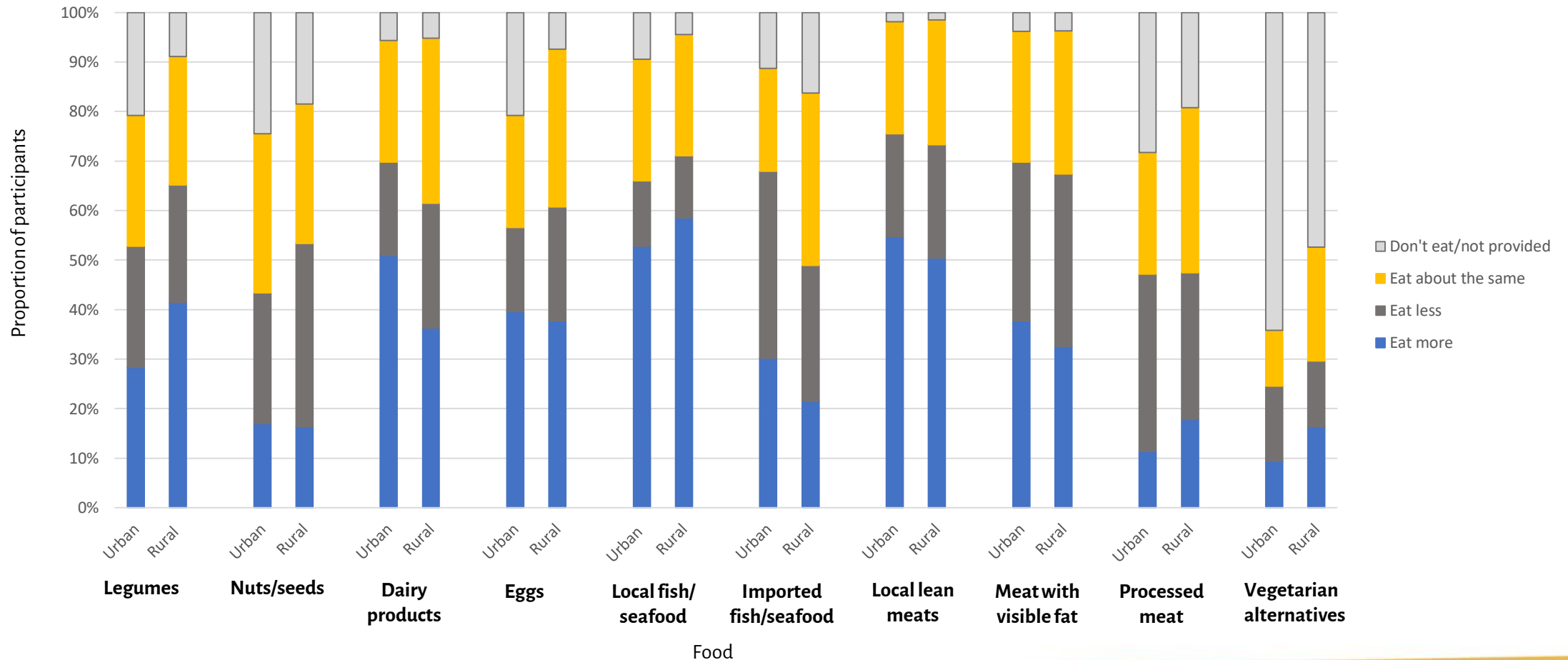


Figure 2. Proportion of participants reporting on availability of food



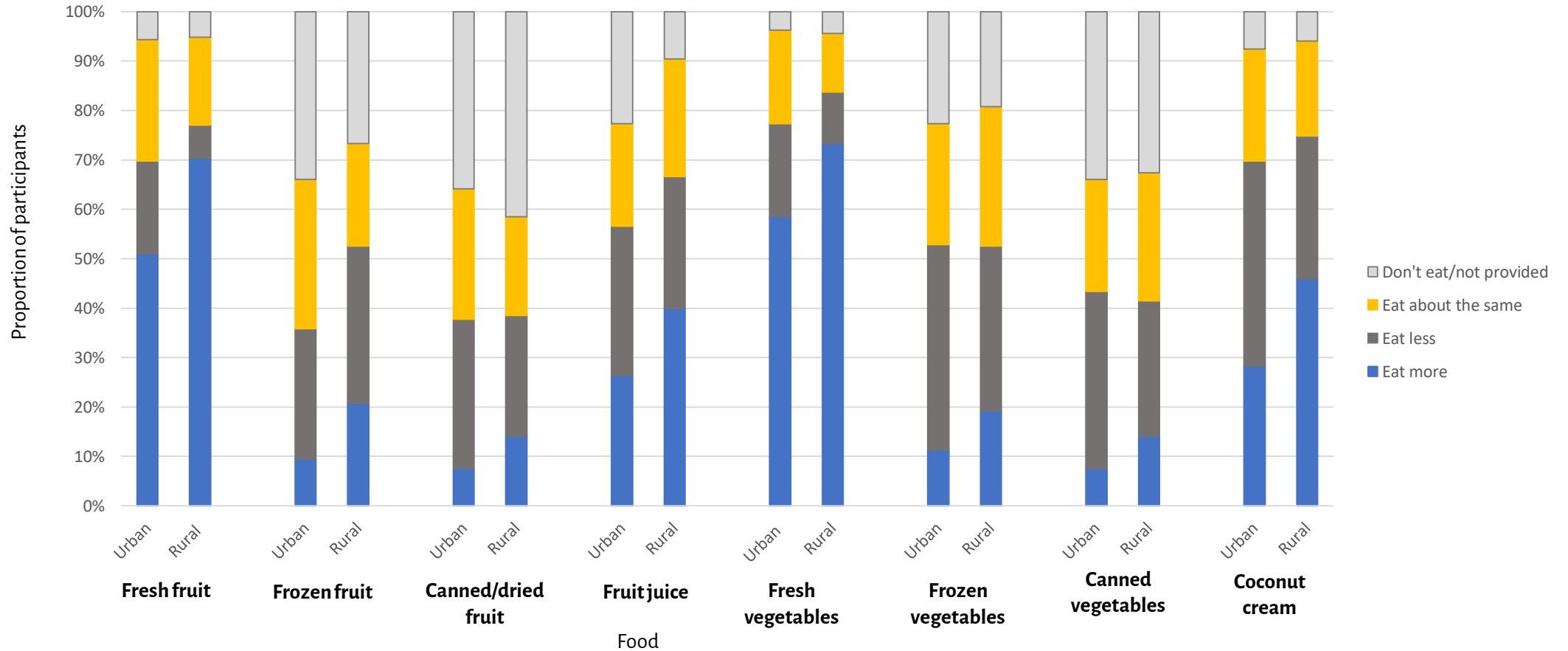
Changes in diets: Bodybuilding foods

Figure 3. Reported change in consumption of bodybuilding foods



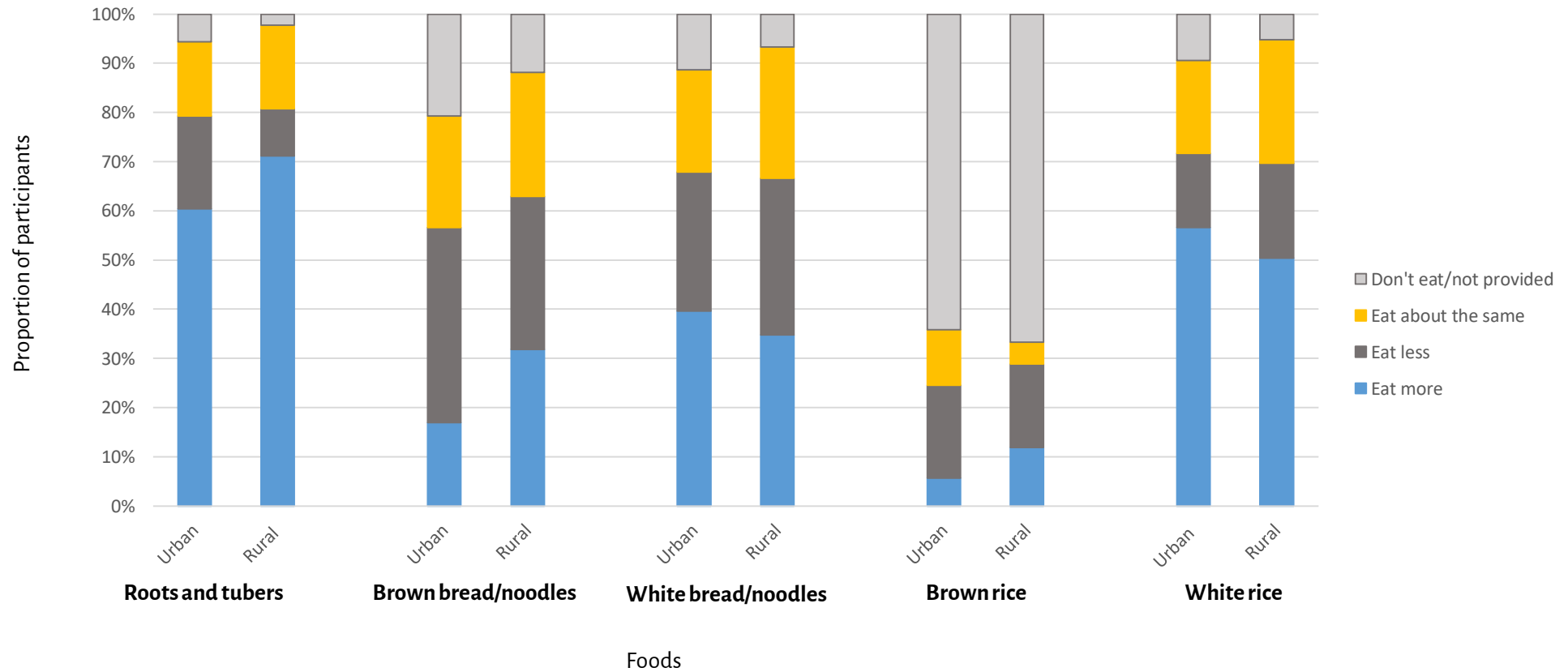
Changes in diets: Protective foods

Figure 4. Reported change in consumption of protective foods



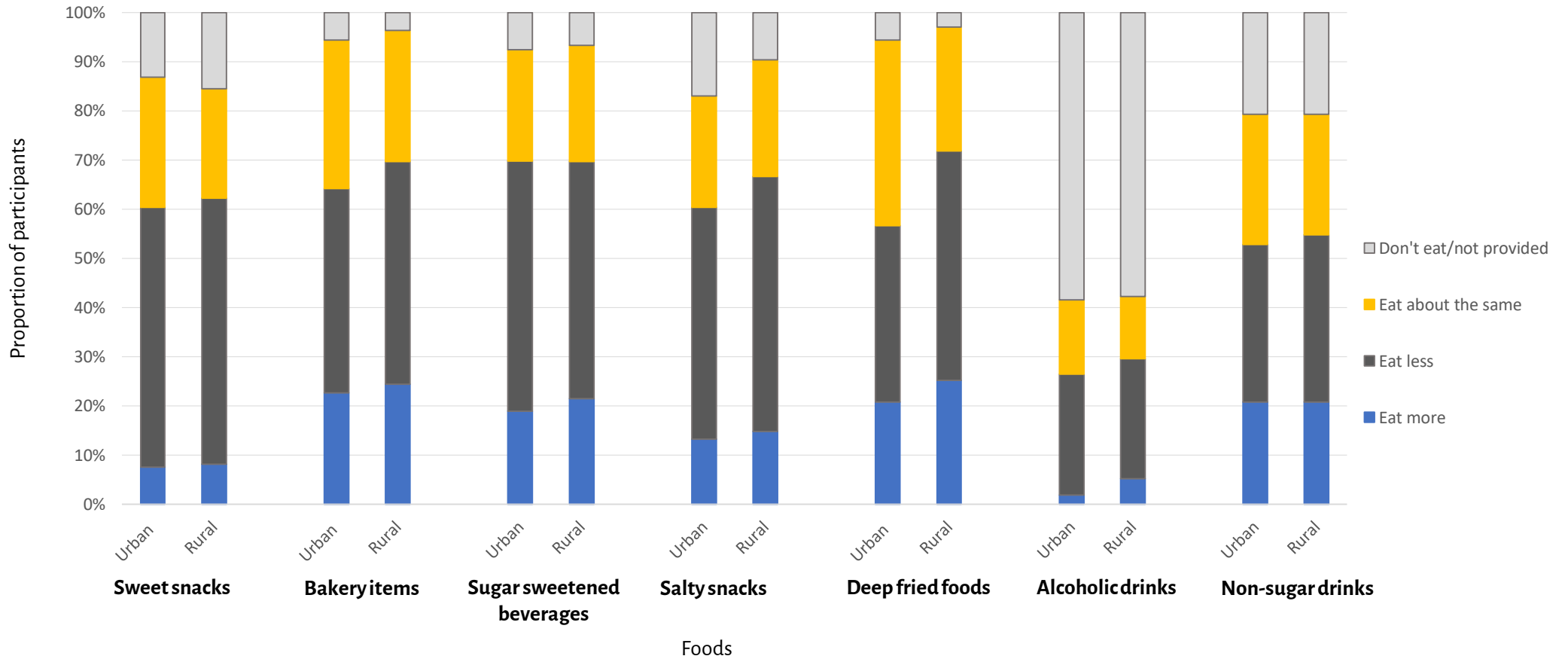
Changes in diets: Energy foods

Figure 5. Reported change in consumption of energy foods



Changes in diets: Discretionary foods

Figure 6. Reported change in consumption of discretionary foods



Food insecurity

You or others in your household worry/worried about not having enough food to eat because of a lack of money or resources?

Your household ran out of food because of a lack of money or resources?

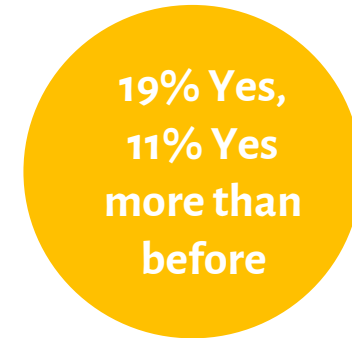
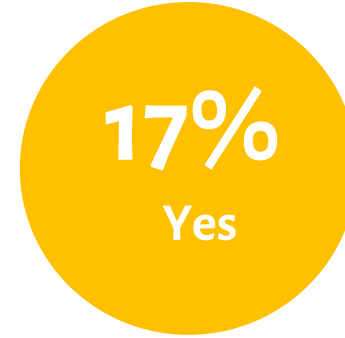
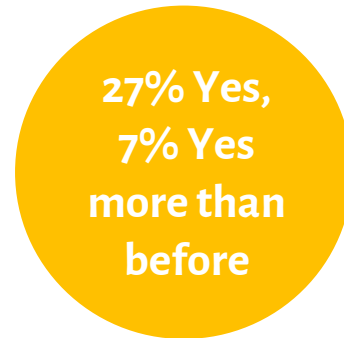
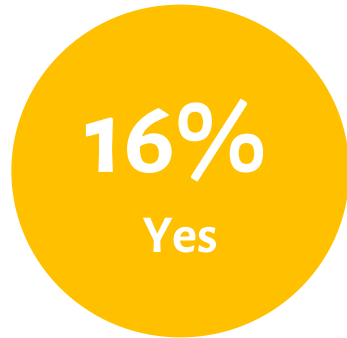
Before COVID-19

COVID-19

Before COVID-19

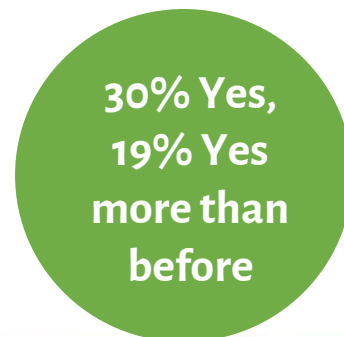
COVID-19

Urban



Urban

Rural



Rural

Discussion and conclusions

Our findings are self-reported, however it is likely that:

- COVID-19 has had some impact on food choice
- COVID-19 has impacted food pricing and availability
- COVID-19 has impacted food security, possibly related to financial resources
- Impact of COVID-19 is seen slightly differently in urban vs. rural populations

While we have only undertaken preliminary analysis, we will be looking at other associations, for example gender and household size.

Thank you

Fa'afetai

Contact details:

Dr Ramona Boodoosingh, rboodoosingh@nus.ws & Dr Sarah Burkhart, sburkhar@usc.edu.au