

SUPPLEMENTARY FILES

Supplementary Table S1: Food Security Module Household Socioeconomic Status Questionnaire, PNGIMR's CHES, 2021

MODULE ON FOOD SECURITY (FS)		Instruction
<i>In this section I will ask you questions regarding possible food shortage in your household in the last 12 months.</i>		
FS1. In the last 12 months, were there ever any times when you and your household members did not have enough food to eat?	Yes..... 01 No 02 DK..... 88	02, 88-> Next module
FS2. How many months ago did you or your household members have food shortage last time?	It happened__ month(s) ago	
FS3. How often does the shortage of food happen in your household in the last 12 months?	Every month..... 01 Every three months..... 02 Every six months..... 03 Every year..... 04	
FS3A. Was there a time when you were unable to eat healthy and nutritious food ?	Yes 01 No 02 Don't Know 88 Missing 99	
FS3B. Was there a time when you had to skip a meal ?	Yes 01 No 02 Don't know..... 88 Missing 99	
FS3C. Was there a time when you went without eating for a whole day ?	Yes 01 No 02 Don't know..... 88 Missing 99	
FS4. What are the reasons for you or your household members not having enough foods to eat in the last 12 months? <i>Note: Multiple responses allowed</i>	Not enough money to buy food 01 Not produce sufficient food 02 Couldn't sell/ exchange foods..... 03 Health issues including COVID-19..... 04 Others (specify): 05	01 -> FS5 02 -> FS6 03 -> FS7 04 -> FS8
FS5. What are the reasons you or your household member NOT having enough money for buying foods ? <i>Note: Multiple responses allowed</i>	No salary/ income..... 01 Salary/ income declined..... 02 Lost job..... 03 Spent all savings04 Food prices increased..... 05 Others (specify):06	
FS6. What are the reasons for you or your household members NOT producing sufficient foods ?	Not enough garden to grow food01 Drought, flood 02 Insect damage 03	

<i>Note: Multiple responses allowed</i>	Seasonality 04 Others (specify):05	
FS7. What are the reasons for you or your household member CAN NOT sell/ exchange foods and other agriculture products?	Transportation mean unavailable 01 Market/ supermarket closed..... 02 Agriculture products had low price..... 03 Food supply chains interrupted..... 04 Social instability..... 05 Others (specify):06	
<i>Note: Multiple responses allowed</i>		
FS8. What are the health issues you and/or your household member have experience?	COVID-19 outbreaks in locality..... 01 Other heath issues (<i>specify</i>):02	01 -> FS9 02 -> FS10
FS9. What are the issues related to COVID-19 outbreak that you and your household member have experienced?	Home quarantined..... 01 Centre-based quarantined02 Tested positive with COVID-19..... 03 Hospitalised due to COVID-19 04 Dead due to COVID-19..... 05	
<i>Note: Multiple responses allowed</i>		
FS10. Did you or your household members receive any assistance during the COVID-19 outbreak in the last 12 months?	Yes.....01 No02 Don't know..... 88	01 -> FS11 02 -> next module
FS11. What kind of assistance you and your household members received during the COVID-19 outbreak?	Information/ medical advice..... 01 COVID-19 preventive materials*..... 02 Foods provided..... 03 Financial support..... 04 Testing services provided 05 Quarantine services provided..... 06 Healthcare services provided..... 07 Vaccination/Other (specified)08	
<i>Note: Multiple responses allowed</i>		
FS12. What organisation did you and your household members received this assistance from?	Public/ Government organisation..... 01 Local charity/ community organisation.... 02 International organisation..... 03 Religion-based organisation..... 04 Friend/ colleague..... 05 Neighbour 06 Other (specified) 07	
<i>Note: Multiple responses allowed</i>		

**Note: COVID-19 preventive materials such as personal preventive equipment (PPE), facemask, sanitizer, soap*

Supplementary Table S2: Unadjusted odds ratios of socioeconomic demographic factors of household food security during COVID-19 pandemic in Papua New Guinea, PNGIMR's CHES, 2021

Factors	Category	N	%	Unadjusted ORs	95% Confidence Interval		Sig.
					Lower Bound	Upper Bound	
Sector	Urban	479	19.3%	0.587	0.401	0.858	0.006
	Rural	1998	80.7%	Ref.			
Province!	POM	215	8.7%	329118.353	169925.662	637448.685	0.000
	Central	1304	52.6%	1698770.342	1292985.674	2231904.602	0.000
	EHP	956	38.6%	1183024.480	1183024.480	1183024.480	
	ENB	2	0.1%	Ref.			
Age group	0-4	162	6.5%	1.946	1.048	3.613	0.035
	5-14	583	23.5%	2.290	1.353	3.876	0.002
	15-24	432	17.4%	2.079	1.206	3.584	0.008
	25-34	372	15.0%	2.328	1.342	4.038	0.003
	35-44	337	13.6%	2.304	1.324	4.008	0.003
	45-54	268	10.8%	1.906	1.073	3.388	0.028
	55-64	143	5.8%	3.001	1.619	5.563	0.000
	65-101	180	7.3%	Ref.			
Sex*	Male	1240	50.1%	1.041	0.862	1.256	0.677
	Female	1237	49.9%	Ref.			
Household size*	1-2	132	5.3%	0.693	0.318	1.513	0.358
	3-4	532	21.5%	0.729	0.417	1.274	0.266
	5-6	678	27.4%	0.975	0.610	1.557	0.914
	7-8	397	16.0%	0.741	0.489	1.121	0.156
	9-10	224	9.0%	0.888	0.590	1.338	0.570
	10+	514	20.8%	Ref.			
Number of women aged 15-49 years*	0	182	7.3%	0.799	0.446	1.429	0.448
	1	964	38.9%	0.771	0.513	1.158	0.210
	2	587	23.7%	0.679	0.464	0.994	0.047
	3	377	15.2%	0.756	0.521	1.098	0.142
	4+	367	14.8%	Ref.			
Number of children under 5 years	0	1396	56.4%	1.853	1.170	2.934	0.009
	1	624	25.2%	1.821	1.152	2.880	0.010
	2	245	9.9%	1.604	0.967	2.662	0.067
	3+	212	8.6%	Ref.			
Number of men aged 15-64 years	0	172	6.9%	0.253	0.122	0.525	0.000
	1	828	33.4%	0.591	0.366	0.954	0.031
	2	652	26.3%	0.839	0.541	1.301	0.433
	3	351	14.2%	0.736	0.478	1.134	0.164
	4	252	10.2%	0.749	0.484	1.160	0.195
	5+	222	9.0%	Ref.			
Education attainment of adults aged 25+ years	Elementary (Grades 1-2)	12	0.5%	4.038	1.128	14.452	0.032
	Primary (Grades 3-8)	788	31.8%	1.602	1.136	2.261	0.007
	L. Secondary (Grades 9-10)	1025	41.4%	1.253	0.899	1.747	0.182
	U. Secondary (Grades 11-12)	220	8.9%	1.212	0.785	1.872	0.386
	Vocational training	178	7.2%	1.375	0.875	2.161	0.167
	University +	254	10.3%	Ref.			
Employment status*	Unemployed	1098	44.3%	1.019	0.795	1.306	0.881
	Employed	1379	55.7%	Ref.			
Income fortnight of adults aged 15-64 years (PNG kina)	0	172	6.9%	0.876	0.510	1.506	0.633
	1-100	660	26.6%	1.578	1.058	2.353	0.025
	101-200	435	17.6%	1.551	1.028	2.340	0.036
	201-400	436	17.6%	1.213	0.820	1.796	0.334
	401-600	333	13.4%	1.608	1.076	2.401	0.020
	601-800	221	8.9%	1.326	0.851	2.065	0.212

	800+	220	8.9%	Ref.			
Household wealth quintile	Poorest	255	10.3%	1.856	1.322	2.605	0.000
	Poor	372	15.0%	1.424	1.029	1.970	0.033
	Middle	476	19.2%	1.332	0.997	1.780	0.053
	Rich	618	24.9%	1.190	0.912	1.552	0.200
	Richest	756	30.5%	Ref.			
Valid		2477	100.0%				
Missing		35403					
Total		37880					

Note: ! Unexpected singularities in the Hessian matrix are encountered. This indicates that either predictor variable should be excluded or some categories should be merged.

**These variables were not significant in MLR model so they were excluded in the final model.*