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The State of Food Security and Nutrition in Myanmar 2022-23

Findings from five rounds of the Myanmar Household Welfare Survey

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ABSTRACT

This working paper explores the state of food security and nutrition in Myanmar using 5 rounds of nationally representative household panel data collected from December 2021 to June 2023. Overall, the state of food security and nutrition has deteriorated in Myanmar in 2022-23. More than 3 percent of households were in moderate to severe hunger in April-June 2023. Hunger was highest in Chin (10.1 percent), Rakhine (7.6 percent), and Kayin (5.9 percent). Households with a low food consumption score increased from 9.4 percent in December 2021-February 2022 to 17.7 percent in April-June 2023. The shares in April-June were highest in Chin (48.4 percent), Kayah (27 percent), and Kachin (22 percent). Inadequate diet diversity among adults rose from 20.6 percent to 27.1 percent over the same period. Women saw a faster decline in diet quality from December-February 2022 to April-June 2022 (9.1 percentage points increase in poor diet quality vs 3.8 percentage points for men). Decreases in diet quality among adults are driven by lower consumption of milk and dairy products as well as Vitamin A rich fruits, meat, fish, and eggs. 40 percent of all children aged 6-23 months and nearly a quarter (24.9 percent) of children aged 6-59 months had inadequate diet quality in the latest round of survey. Regression analysis reveals low income and limited assets to be important risk factors for food security and adequate diet quality. Wage workers and low wage communities are found to be particularly vulnerable. Rising food prices, conflict and physical insecurity increase the likelihood of poor diet quality. Receiving remittances is a source of resilience; remittance-receiving households are less likely to experience hunger or poor dietary diversity at the household, adult, and child level. To avert a full-blown nutrition crisis in Myanmar, effective multisectoral steps are required to protect nutritionally vulnerable populations. Expanded implementation of nutrition- and gender-sensitive social protection programs, including maternal and child cash transfers, particularly to vulnerable groups is called for. Further, given the importance of remittances as an effective coping mechanism, supporting migration and the flow of remittances would help to improve the welfare of the Myanmar population.

1. INTRODUCTION

In this working paper, we provide an overview of the state of food security and nutrition in Myanmar using household datasets collected across five rounds from December 2021 to June 2023. We examine food security using the household hunger scale and the food consumption score. To examine the state of nutrition, we examine the diet quality of individuals across Myanmar for three separate but important sections of population: (1) adults (18+ years), (2) women of reproductive age (15-49 years), and (3) children (6-23 and 6-59 months).

We explore these indicators using five rounds of the Myanmar Household Welfare Survey (MHWS) collected over the phone from December 2021 to June 2023 – hereafter R1, R2, R3, R4, and R5 – among over 12,000 households in 310 townships of Myanmar. Four rounds of data collection were spread out roughly over the four quarters in 2022 while the timing of the fifth round conducted in 2023 overlapped with that of the second round of data collection in 2022. Thus, the surveys help us to understand the dynamic nature of food security and nutrition over a period of more than one year in Myanmar in a time marred by internal conflict, currency devaluation, and global price hikes resulting from the war in Ukraine.

MWHS is a nationally, urban/rural and state/region representative phone survey (MAPSA 2022a). We use standard food security and diet diversity measures for each of the three subpopulations to examine trends over the five rounds as well as explore heterogeneity with respect to gender, location of residence, and asset and income-based welfare indicators. We also look at disaggregated consumption of the different food groups that constitute the diet diversity measures to investigate the change in the consumption pattern of individuals. Finally, we use regression analysis to look at predictors of food insecurity and inadequate diet diversity, including household wealth and income, self-reported shocks, food prices, and household characteristics.

2. FINDINGS FROM FOOD SECURITY INDICATORS

The first food insecurity indicator we examine is the household hunger scale (HHS), which measures the experience of hunger in the household based on three questions related to the lack of food at home, going to sleep hungry, and going an entire day without food (Ballard et al. 2011). Based on the frequency of occurrence, i.e. “did not occur”, “rarely” or “sometimes”, and “often”, answers are scored and are used to classify households into three groups: "little to no" (0-1), "moderate" (2-3), or "severe” (4-6) hunger. The second indicator is the WFP Food Consumption Score (FCS), which examines the frequency of consumption of different foods in the past week.

2.1 Hunger Household Scale

Table 1 presents the prevalence of hunger at the national level for all five rounds of the survey. Although moderate or severe hunger was consistent at around 4 percent of households throughout 2022, hunger fell to 3.3 percent in R5. This is about 0.7 percentage points lower compared to the same time in the previous year (i.e. R2). Nearly 7.3 percent of households had no food of any kind in the house on at least one day in R5 which is lower than 9.7 percent reported in R2. **However, the frequency of occurrence has increased significantly with 12.3 percent of households reporting to have experienced this more than 10 times in the four weeks preceding the survey**. In 3.4 percent of households, at least one member went to sleep hungry on one or more days, and in 1.3 percent of

households one member or more went at least one whole day and night without food in R5. **At the state level, the rate of hunger continues to be alarmingly high for Chin (10.1 percent), Rakhine (7.6 percent), and Kayin (5.9 percent) going into R5 (Table A.1)**. Over the year from R2 to R5, the prevalence of hunger almost doubled in Rakhine from 3.9 percent in R2 to 7.6 percent in R5 and increased in Nay Pyi Taw while it fell in Ayeyarwady and Tanintharyi (see Appendix Table A.1). Such rates of hunger are likely consequences of high levels of conflict and instability in these regions as well as destruction and flooding caused by the extremely severe Cyclone Mocha which hit Myanmar in May 2023.

Table 1. Composite categories of Household Hunger Score (HHS) and 7-day recall questions, percentage of households

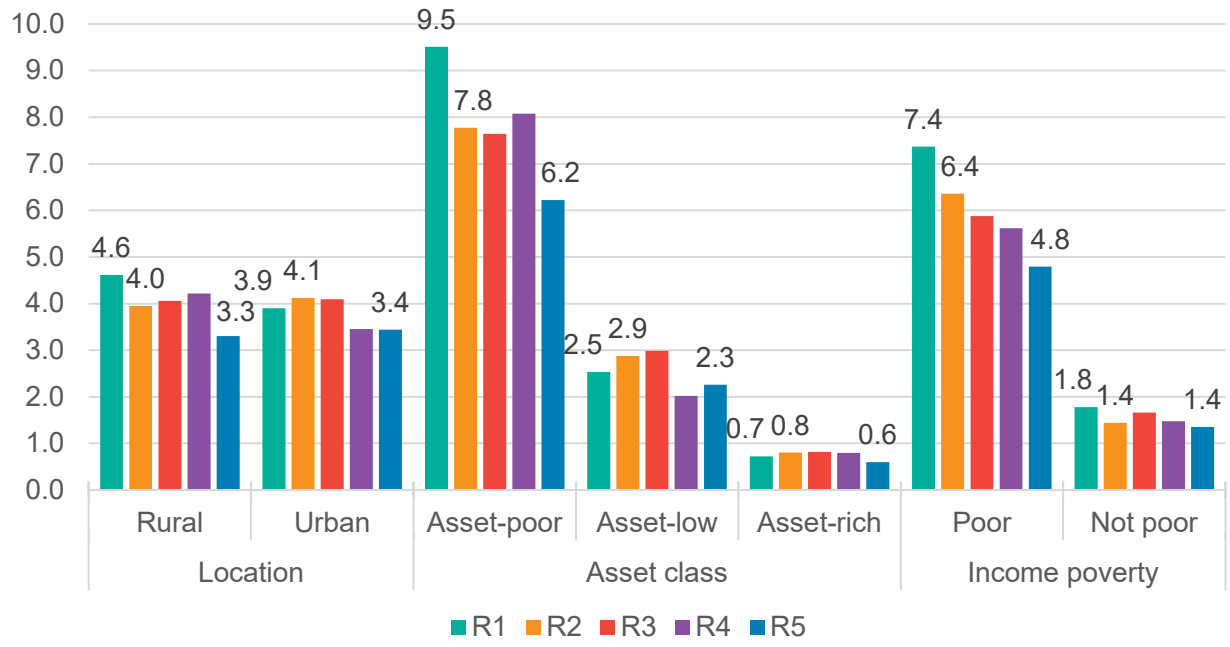
	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
	Percentages (%)					*% points*	
HHS classifications							
Little to no hunger	95.6	96.0	95.9	96.0	96.7	1.1***	0.7**
Moderate hunger	4.2	3.7	3.6	3.7	3.1	-1.1***	-0.6**
Severe hunger	0.2	0.3	0.4	0.3	0.2	0.0	0.0
Moderate to severe hunger	4.4	4.0	4.1	4.0	3.3	-1.1***	-0.7**
No food of any kind the house	11.6	9.7	10.0	9.4	7.3	-4.3***	-2.4***
Rarely (1-2 times) [a]	48.4	39.1	38.1	39.5	38.9	-9.5***	-0.2
Sometimes (3-10 times) [a]	48.0	50.0	48.7	49.4	48.8	0.8	-1.2
Often (more than 10 times) [a]	3.6	10.9	13.2	11.1	12.3	8.7***	1.4
Went to sleep hungry	4.9	3.8	3.7	4.0	3.4	-1.6***	-0.4
Rarely (1-2 times) [a]	46.8	38.8	41.8	45.6	48.0	1.2	9.2**
Sometimes (3-10 times) [a]	50.0	55.1	47.2	49.9	45.9	-4.1	-9.1**
Often (more than 10 times) [a]	3.2	6.1	11.1	4.5	6.0	2.8*	-0.1
Went full day & night without food	2.1	1.6	1.6	1.7	1.3	-0.9***	-0.4*
Rarely (1-2 times) [a]	44.9	53.2	50.5	51.1	51.8	6.9	-1.3
Sometimes (3-10 times) [a]	50.0	40.7	43.9	44.3	42.2	-7.8	1.5
Often (more than 10 times) [a]	5.1	6.1	5.6	4.6	6.0	0.9	-0.2
No of observations	12100	12142	12128	12924	12953		

Note: a. The frequency of occurrence questions is for the subsample of households that answered "yes" to the three hunger related questions. Asterisks refer to the level of statistical significance in the difference in means between Rounds: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "Went to sleep hungry" and "went full day & night without food" refer to any household member undergoing these experiences.

Next, we explore possible differences in household hunger with respect to location, asset class and poverty status. We generate three different categories of asset level using a count of 10 items, where a household is classified as asset-poor if it owns between 0 to 3 items, asset-low if it owns between 4 to 6 items and asset-rich if it owns 7 or more items. Income poverty status of poor or not poor is calculated from the self-reported income level relative to national poverty lines from 2017 updated for inflation trends.

We find that poor households are particularly vulnerable to hunger. 6.2 percent of asset-poor households experienced moderate to severe hunger in R5, although it has fallen over the past year from 7.8 percent in R2, while 4.8 percent of income poor households remain hungry in R5 falling from 6.4 percent in R2 (Figure 1). There is no significant difference with respect to urban/rural location.

Figure 1. Proportion of households in moderate to severe hunger by location, asset, and poverty status



2.2 Food Consumption Score

The second indicator we look at is the household Food Consumption Score (FCS). The FCS is a measure of dietary diversity and food frequency, considering the nutritional importance of the food consumed. It is calculated as the weighted sum of the frequency of food groups eaten over the seven days prior to the survey where weights reflect the relative nutritional value of the food group (Arimond et al., 2010). A higher FCS is considered to be associated with a higher probability that a households' food intake is adequate. Based on the score, households are classified into three groups: poor (0-24.5), borderline (24.6-38.5), or acceptable food consumption status (>38.5). We follow the threshold values as typically agreed upon for Myanmar (Robertson et al. 2018). For some analysis, we further aggregate poor and borderline food consumption (i.e. FCS<=38.5) to generate a dichotomous indicator of low FCS.

Table 2 shows the frequency of food groups consumed over the past seven days as well as the aggregate measure of FCS. **At the national level, the percentage of households with inadequate food consumption increased from R1 to R5 of our survey**. 16.9 percent of households have borderline food consumption, while 0.8 percent of households have poor food consumption in R5 which is a significant increase from R1 when 8.9 percent and 0.5 percent of households had borderline and poor food consumption, respectively. Prevalence of borderline or poor food consumption is also higher compared to a year before in R2. **This was mainly driven by a decline in the consumption of milk and dairy products as well as meat, fish, and eggs,** which are weighted the highest in the calculation of the FCS because of their nutritional value. Consumption of milk and dairy products is low and has fallen even lower over the survey period from 1.2 days per week in R1 to 0.7 days in R5. Similarly, consumption of meat, fish, and eggs has also fallen from 5 days in R1 to 4 days per week in R5.

There is significant urban/rural disparity with consumption of milk and dairy products, with consumption much higher in urban areas compared to rural areas (1.2 and 0.5 days, respectively, in R5). The same is seen in meat, fish, and eggs with urban households consuming these foods 4.6 days per week compared to 3.8 days in rural areas in R5. On the other hand, although frequency of consumption of vegetables have gone up, there is a fall in the consumption of fruits compared to a year before (3.0 days in R5 vs 3.5 days in R2). This may be a consequence of an increase in prices of fruits such as bananas of which the price has gone up nearly 24 percent according to price data collected in the MHWS.

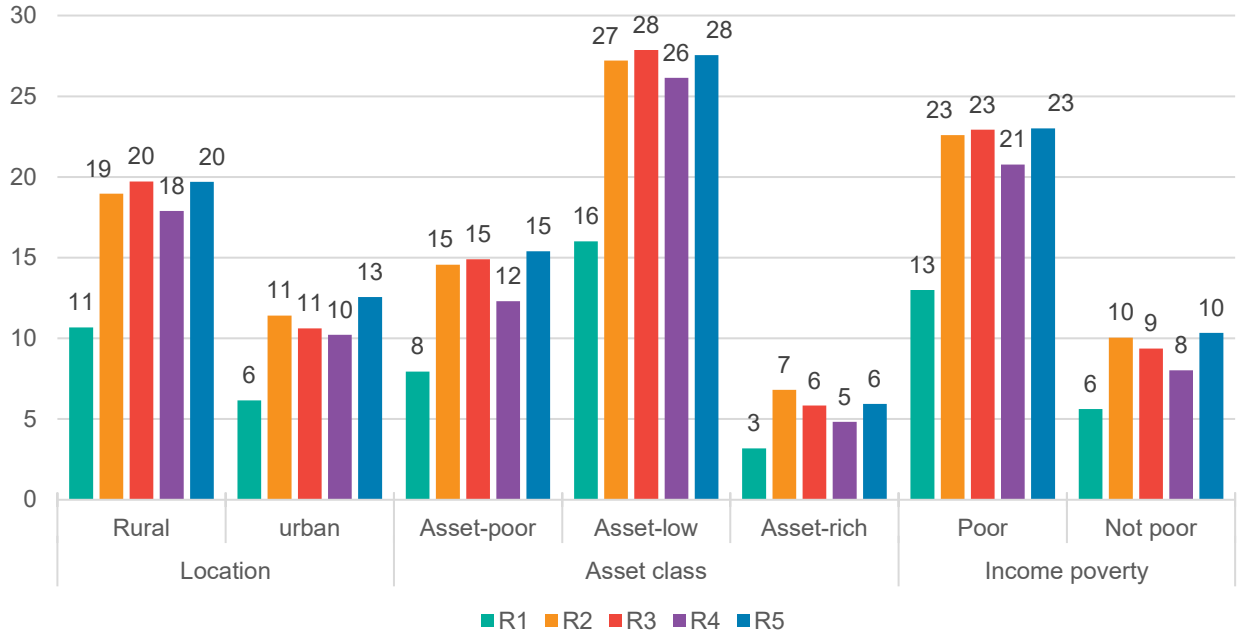
Table 2. Frequency of food groups consumed, and Food Consumption Score (FCS) based on 7-day recall, household level

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
	Number of days consumed in past 7 days					*% points change*	
Main staples	7.0	7.0	7.0	7.0	7.0	0.0***	0.0***
Pulses/legumes/nuts	3.1	2.5	2.5	2.5	2.4	-0.6***	0.0*
Milk and other dairy products	1.2	0.9	0.8	0.7	0.7	-0.5***	-0.2***
Meat, fish, and eggs	5.0	3.9	4.0	4.3	4.0	-1.0***	0.1***
Vegetables	5.2	5.5	5.6	5.5	5.5	0.2***	0.0
Fruits	2.5	3.5	2.9	2.4	3.0	0.6***	-0.4***
Oil, fats, and butter	6.6	6.7	6.7	6.7	6.8	0.2***	0.1***
Sugar or sweet	3.3	2.1	2.2	2.1	2.1	-1.2***	0.0
Food Consumption Score (0-112)	60.9	53.9	53.6	53.8	53.2	-7.7***	-0.6**
			Percentages (%)			*% points change*	
Acceptable food consumption	90.6	83.2	82.8	84.3	82.3	-8.3***	-0.9
Borderline food consumption	8.9	15.7	16.1	14.8	16.9	8.0***	1.2**
Poor food consumption	0.5	1.2	1.1	0.9	0.8	0.3**	-0.4**
No. of observations	12100	12142	12128	12924	12953		

Note: Statistics for food groups are number of days household have consumed in 7 days prior to survey. Food Consumption Score is the average score in the population (out of 112). Acceptable, borderline, and poor food consumption is based on cutoff as described in text; statistics presented are percentage of households in each category of food consumption. Asterisks refer to the level of statistical significance in the difference in means between Rounds: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

With respect to location, asset class, and poverty status, **households in rural areas and those in asset and income poverty are much more likely to have low food consumption scores, with a sharp increase from R1 to R2 and staying consistently high over the past year (Figure 2).** 20 percent of households in rural areas had a low FCS compared to 13 percent in urban areas in R5 with the rate of increase from R1 also higher for rural compared to urban areas (9.0 vs 6.4 percentage points). 15 percent of asset-poor and 28.0 percent of asset-low households have low FCS in R5 – a statistically significant increase of 7.5 and 11.5 percentage points from R1. The prevalence of low FCS among income-poor households also saw a large increase from 12.8 percent in R1 to 23.0 percent in R5.

Figure 2. Proportion of households with low food consumption score (FCS<=38.5)



There were large differences in the FCS across states/regions (see Appendix Table 2/Figure 4). **The prevalence of low FCS is highest in Chin (48.4 percent), Kayah (27.0 percent), and Kachin (22.0 percent) in R5.** On the other hand, **there was a large increase in the prevalence of low FCS in Kachin (14.9 percentage points), Mon (12.1 percentage points), and Ayeyarwady (12.7 percentage points) between R5 and R1.**

3. FINDINGS FROM NUTRITION INDICATORS

In this section, we present results from two indicators of diet diversity to measure diet quality amongst adults (18+ years), women of reproductive age (15-49 years) and children (6-23 and 6-59 months). The minimum diet diversity (MDD) measure for adults is calculated as whether an adult has consumed at least 5 of 10 food groups (grains/root/ tubers, pulses (beans, peas and lentils), nuts/seeds, dairy, meat/poultry/fish, eggs, dark green leafy vegetables, other vitamin A-rich fruits and vegetables, other vegetables, and other fruits) in the 24 hours prior to the survey (FAO and FHI, 2016). We also explore diet diversity in reproductive age women since diet quality of women has significant impact on her children's birthweight and their probability of being stunted or wasted. The MDD for children, aged 6-23 and 6-59 months, is calculated as whether a child was offered at least 4 of 7 food groups (grains/root/tubers, legumes/nuts, dairy products, eggs, flesh food, vitamin-A rich vegetables/fruits, and other vegetables/fruits) in the 24 hours prior to the survey (WHO, 2007). The population level indicator is then calculated as the proportion of children with low diet diversity amongst all children in the age group.

3.1 Minimum Diet Diversity of Adults (18+ Years)

Table 3 shows the proportion of adults not consuming a minimum dietary diversity (5 out of 10 food groups) for each quarter. There is a large and statistically significant increase in the prevalence of low diet diversity amongst adults from 20.6 percent in R1 to 27.1 percent in R2, with low dietary diversity remaining high throughout last year with 27.2 percent in R5. Adults in rural areas have a higher prevalence of inadequate diet diversity compared to urban areas (28.3 percent vs 24.4 percent in R5) along with a larger rate of increase between R1 and R5 (7.1 percentage points vs 5.5 percentage points).

Over our survey period, there was a divergence in the diet quality of men and women (see Figure 3). Women saw a faster deterioration of diet quality over the past year with a 9.1 percentage point increase of low diet diversity from 20.2 percent in R1 to 29.2 percent in R5. This contrasts with men who saw a deterioration of 3.8 percentage points over the same period from 21 percent in R1 to 24.8 percent in the latest round of survey. Rural women are the hardest hit, where almost 31 percent of women are not consuming a diverse diet, although the gap is widening faster in the urban areas. This is worrying because poor diet quality can put mothers at risk of micronutrient deficiencies and various health problems, but also their health and nutrition can adversely affect the nutrition, health, and long-term cognitive development of their children.

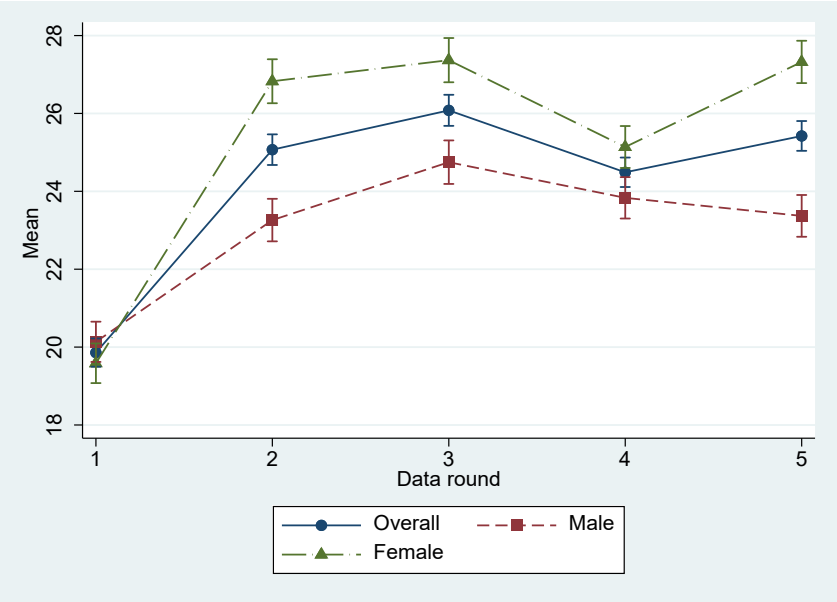
Table 3. Percentage of adults with inadequate diet diversity

		R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)				*% points*	
	Overall	20.6	27.1	27.6	25.0	27.2	6.6***	0.1
National	Male	21.0	25.3	26.8	24.5	24.8	3.8***	-0.5
	Female	20.2	28.6	28.3	25.6	29.2	9.1***	0.6
	Overall	21.2	28.3	28.8	26.3	28.3	7.1***	0.0
Rural	Male	21.3	25.9	28.1	25.9	25.7	4.4***	-0.2
	Female	21.2	30.3	29.4	26.7	30.5	9.4***	0.2
	Overall	18.9	24.1	24.5	21.8	24.4	5.5***	0.3
Urban	Male	20.2	23.8	23.5	21.1	22.6	2.4	-1.2
	Female	17.7	24.4	25.5	22.5	26.0	8.2***	1.6
	Asset-poor	30.5	39.7	37.2	35.4	38.2	7.7***	-1.5
National	Asset-low	18.4	24.3	25.3	21.6	24.6	6.2***	0.3
	Asset-rich	12.6	16.9	19.4	16.1	16.1	3.5***	-0.8
National	Income poor	23.7	32.6	31.0	29.0	31.6	7.9***	-1.0
	Income not poor	16.8	20.0	22.3	18.3	20.6	3.8***	0.6
No. of observations		12,100	12,142	12,128	12,924	12,953		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

We find that irrespective of asset level or poverty status, the proportion of adults with low diet diversity has gone up from R1 to R5 (Table 3). For example, the prevalence of low diet diversity amongst adults belonging to asset-rich households has gone up from 12.6 percent in R1 to 16.1 percent in R5, a statistically significant increase of about 3.5 percentage points while it increased around 7.7 percentage points for asset-poor households.

Figure 3. Trend in the percentage of adults with inadequate diet diversity by gender



In Table 4, we look at the proportion of adults consuming 10 different food groups for each round of our survey to explore which food groups are driving the decrease in diet quality. **We find that consumption of nearly all food groups fell for adults from R1 to R5, with a large decrease in the consumption of Vitamin-A rich fruits and vegetables, meat and fish, and eggs**. Large declines in nutrient-dense foods are a potential risk factor for elevated malnutrition and declining health in the population. **Compared to men, decreases in the consumption of Vitamin-A rich fruits and vegetables, meat and fish, and eggs are higher for women** (see Appendix Table A.3 and A.4). The percentage of women consuming meat and fish, vegetables, and beans in R5 is statistically significantly lower than men.

Table 4. Percentage of adults consuming different food groups in the past 24 hours

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			*% points*	
Cereals/grains/roots/tubers	99.3	98.9	99.6	99.6	99.4	0.1	0.5***
Beans	53.7	52.7	52.7	49.8	48.7	-5.0***	-4.0***
Nuts or seeds	43.9	37.9	36.1	38.0	35.7	-8.1***	-2.2**
Milk and dairy products	16.4	16.6	13.7	12.9	12.0	-4.4***	-4.6***
Egg	52.7	47.1	48.4	47.5	49.0	-3.7***	1.9**
Meat and Fish	88.9	80.7	81.8	84.9	82.5	-6.4***	1.8**
Other fruits	40.7	52.0	50.2	50.6	53.5	12.8***	1.5*
Vitamin A rich fruits/vegetables	49.3	25.9	27.0	31.0	27.9	-21.4***	2.0**
Dark green vegetables	84.3	84.1	80.8	84.5	84.4	0.1	0.3
Other vegetables	82.0	72.6	77.3	78.1	72.1	-9.9***	-0.5

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Appendix Table 5 explores the spatial trend in the prevalence of low diet diversity amongst adults. **Chin (22.1 percentage points), Shan (11 pp), and Sagaing (10.7 pp) saw the biggest *increase* in the prevalence of low adult diet diversity from R1 to R5 while the highest *rates* are found in Chin,**

Kayin, Kayah, and Rakhine where more than a third of all adults have inadequate diet quality in R5 (see Figure 4). These are also states most affected by conflicts, restrictions on mobility due to curfews and checkpoints, and increasing transport costs as well as increasing feelings of insecurity and reports of crime (MAPSA 2022b; MAPSA 2022c).

3.2 Minimum Diet Diversity of Women of Reproductive Age (14-59 Years)

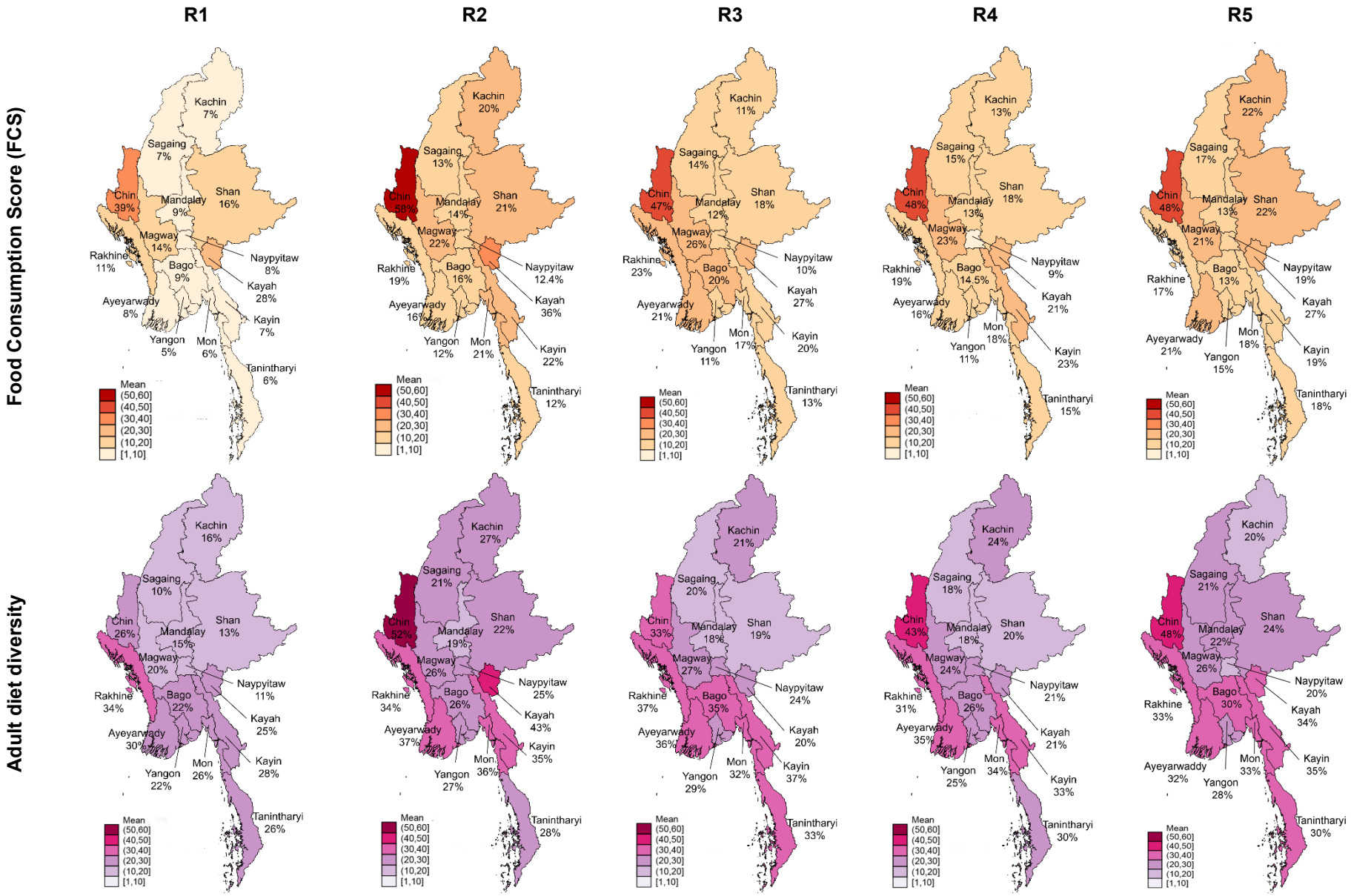
We find similar dietary trends for women of reproductive age (14-59 years) compared to those of all adult women. 30.2 percent of reproductive age women in R5 did not consume minimum diet diversity (5 out of 10 food groups), a statistically significant increase of 8.7 percentage points from R1 (Appendix Table A.6). The prevalence of low diet diversity is higher in rural areas (31.6 percent) than urban areas (26.6 percent) in R5. More than a third of all women in asset poor (38.7 percent) and income poor (33.6 percent) categories have inadequate diet quality with a statistically significant increase in asset-rich (6.7 percentage points) and asset-low household (8.5 percentage points) and households that are not income poor (6.3 percentage points) categories as well (see Appendix Table A.6).

Looking at individual food groups (see Appendix Table A.7), **we find a decrease in consumption of nearly all food groups for reproductive age women from R1 to R5**, particularly nutrient dense food groups such as Vitamin A-rich fruits and vegetables, milk/dairy products, meat and fish, and eggs which is worrying given the potential threat of intergenerational transmission of inadequate nutrition by this special demographic group. Spatially, states with conflict such as **Sagaing, Chin, and Shan saw an *increase* in the prevalence of low diet diversity of reproductive age women with the highest *rates* prevailing in Chin, Kayin, Kayah, and Rakhine in R5** (see Appendix Table A.8).

3.3 Minimum Diet Diversity of Children, 6-23 And 6-59 Months

In our survey, for households with children under the age of 5 years, the primary caregiver is asked questions regarding the food intake of the youngest child. In R1, we asked only for children less than 2 years old, while in the rest of the rounds, namely R2 to R5, we expanded our sample to include any children below age 5. Table 5 presents the estimates for the proportion of children, 6-23 and 6-59 months, not consuming minimum diet diversity i.e. not consuming 4 out of 7 food groups (FANTA, 2006).

Figure 4. Proportion of households with low food consumption score and adult diet diversity by state/region



We find 40.4 percent of all children aged 6-23 months have inadequate diet quality in R1, with no improvement in the prevalence over the past year. Boys had a higher prevalence of inadequate diet quality compared to girls in R5 (43.3 percent compared to 37.6 percent for girls) (see Table 5). With respect to children 24-59 months of age, we see a slight worsening of the situation, with more children having poor diet quality, although the change is not statistically significant; 18.4 percent of children aged 24-59 months has poor diet quality in R5 compared to 16.7 percent a year back in R2.

When we consider all children under 5 years old, **we find that a quarter (25 percent) of all children under 5 are without adequate diet diversity,** with a large increase in the prevalence from R4 to R5 of 3.4 percentage points (see Table 5). The rate is higher in boys, who also saw a deterioration in diet quality over the past year with a 3.8 percentage point increase in boys with poor diet quality. Overall, children from rural areas, and asset and income poor households are worse off.

Table 5. Percentage of children with inadequate diet diversity

	6-23 months						
	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change: R5 – R1	Change: R5 – R2
	Means (%)					*% Points*	
Overall	40.7	40.0	37.1	34.5	40.4	-0.3	0.4
Boys	39.9	37.4	36.9	32.3	43.3	3.4	5.9
Girls	41.5	42.6	37.3	36.8	37.6	-3.9	-5.0
No of obs.	684	601	739	712	672		
	6-59 months						
	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change: R5 – R2	Change: R5 – R4
Overall	-	23.5	22.4	21.5	24.9	1.3	3.4**
Boys	-	22.1	21.3	21.7	25.9	3.8*	4.2**
Girls	-	25.1	23.6	21.2	23.8	-1.3	2.7
No of obs.	-	2,092	2,390	2,398	2,228		

Note: Asterisks refer to the level of statistical significance in the difference in age adjusted trend between rounds: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Next, we look at individual food groups to examine what is driving the changes and find big increases in the consumption of Vitamin A rich fruits and vegetables for children aged 6-23 months over R1 to R5 (see Table 6). For children aged 6-59 months, we find an increase in the consumption of eggs between R2 and R5. On the other hand, there was a big decrease in the consumption of milk and dairy products for both age groups as well as a fall in the consumption of other fruits and vegetables over the past year. The fall in consumption of milk was possibly a consequence of increasing prices in the market. In addition, there was a fall in the consumption of meat and fish for both age groups since the last round of survey in October – December 2022 (R4).

Table 6. Percentage of children consuming different food groups in the past 24 hours

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			6-23 months				
Grains	95.0	95.8	98.3	98.9	95.4	0.4	-0.4
Legumes & Nuts	45.1	44.7	49.7	47.9	47.1	2.0	2.4
Milk and dairy products	39.6	38.7	34.0	35.5	29.5	-10.1***	-9.3***
Meat & Fish	54.5	57.1	60.7	61.1	55.4	0.9	-1.7
Egg	50.2	46.5	46.1	48.5	48.5	-1.7	2.0
Vit-A rich fruits & vegeta-bles	42.1	54.6	53.2	57.0	54.7	12.6***	0.1
Other fruits & vegetables	68.4	59.3	62.0	68.1	55.0	-13.4***	-4.3
	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			6-59 months				
Grains	-	98.06	99.25	99.44	98.0	0.0	-1.4***
Legumes & Nuts	-	58.59	59.53	58.04	57.0	-1.6	-1.0
Milk and dairy products	-	35.12	27.81	29.43	29.2	-5.9***	-0.2
Meat & Fish	-	71.73	73.24	75.68	71.8	0.1	-3.9**
Egg	-	52.38	54.49	55.25	57.4	5.0***	2.2
Vit-A rich fruits & vegeta-bles	-	67.25	67.22	66.50	67.6	0.4	1.1
Other fruits & vegetables	-	74.13	76.10	77.17	66.4	-7.7***	-10.8***

Note: Asterisks refer to the level of statistical significance in the difference in age adjusted trend between rounds: * p < 0.10, ** p < 0.05, *** p < 0.01.

Overall, we see a fall in consumption of meat, fish, egg, milk products, and Vitamin A rich fruits and vegetables. This is also evident by households reporting a reduction in expenditure on these items. In our survey, we asked respondents to report whether they reduced food expenditure in the past 30 days prior to the interview day, and on which items they have reduced it. **Around 40 percent of our respondents in R5 has reported to have reduced expenditure on food in the preceding 30 days of the survey day with households reporting to have reduced expenditure in all food groups compared to the previous year in R2. Around 30 percent of households reported reducing expenditure on dairy and eggs, 90 percent on meat and fish, and about 50 percent of households reported expenditure reductions on fruits and vegetables** (see Appendix Table A.11). These may be a consequence of falling income and rising prices in the face of multiple shocks that have affected the country. 45 percent of our respondents have reported that they have faced a significant decrease in income in the preceding 3 months of the survey date.

4. REGRESSION ANALYSIS

To explore possible risk factors of food security and nutrition, we conduct a panel random effects linear probability model exploring how welfare measures, self-reported shocks, prices, and household characteristics affect the probability of households being in moderate to severe hunger, and of having low food consumption scores as well as the likelihood of low diet diversity score for adults and children aged 6-59 months. We also control for principal household income source and other household and respondent characteristics as well as include survey month and state fixed effects in the model. The estimates of the proportional change in risk of hunger and inadequate diet diversity of different associates are presented in Figures 5 and 6 respectively.

Findings from the regression analysis are summarized below:

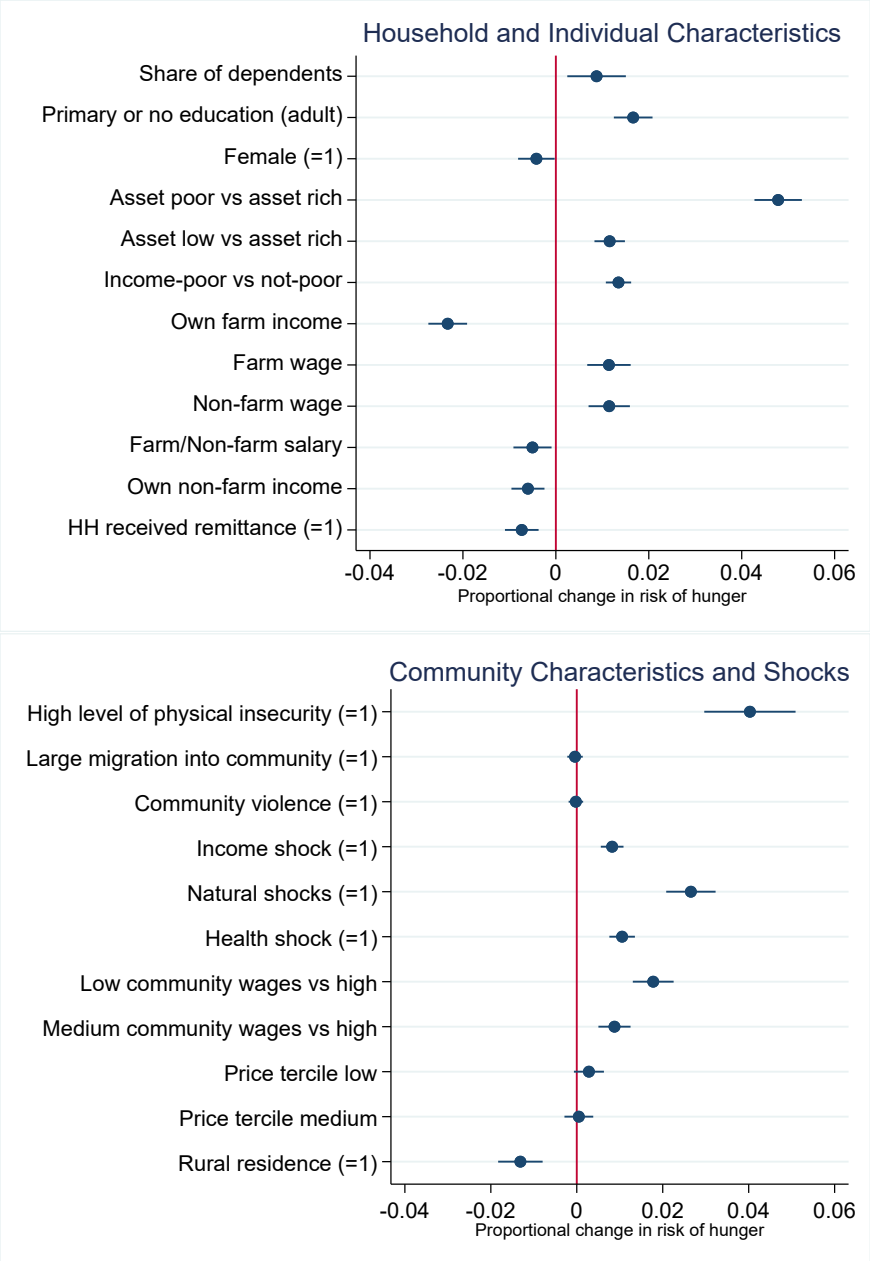
- **Low income and limited assets are a significant risk for food insecurity and inadequate diet diversity.** Income poor households are more likely to be in moderate to severe hunger as well as have low food consumption. Such households are also likely to have adults, reproductive age women and children aged 6-59 months with poor diet quality. On the other hand, households that are asset-poor and asset-low have a higher probability of being in hunger and having low FCS compared to asset-rich households. Asset-poor households are also likely to have inadequate diet diversity for adults and reproductive aged women as well as young children.
- **Farm households are found to be protected against food insecurity and inadequate diet quality.** Households whose primary source of income is their own farm income are less likely to be in hunger and have low household food consumption. Such households are also likely to have adults, reproductive age women and children aged 6-59 months with poor diet quality. On the other hand, **wage worker households are particularly vulnerable to hunger and low diet diversity. Non-farm business activities also decrease the likelihood of hunger and low diet quality for adults and children**.
- **Households in low-wage communities are more likely to be hungry and have a low FCS.**
- **Remittance-receiving households have a lower likelihood of being hungry or having adults or children with inadequately diverse diets.** Remittances seem to offer substantial resilience in this sense.
- **Self-reported income shocks increase the likelihood of being hungry and having inadequate diet diversity** both at the household and individual levels**.** Compared to the other kind of shocks considered in the regression framework, only income shock is found to have a statistically significant association for young children. This indicates that even though households are able to compensate for children's diet in the face of other shocks, such as natural, health or conflict, households are particularly vulnerable and fail to mitigate consumption in the face of income shocks.
- **High levels of physical insecurity are a significant risk factor for food insecurity and diet quality**. Households reporting high levels of physical insecurity are more likely to be hungry and more likely to have inadequate diet diversity at the household and individual

levels such as for adults and reproductive age women. Community violence is also a significant factor for food insecurity and inadequate diet diversity. No significant association is found for young children.

- **Households in communities with higher food prices are more likely to have increased prevalence of hunger and poor adult dietary diversity.**
- **Women-only households are particularly vulnerable to food security with higher likelihood of having a low food consumption score.**

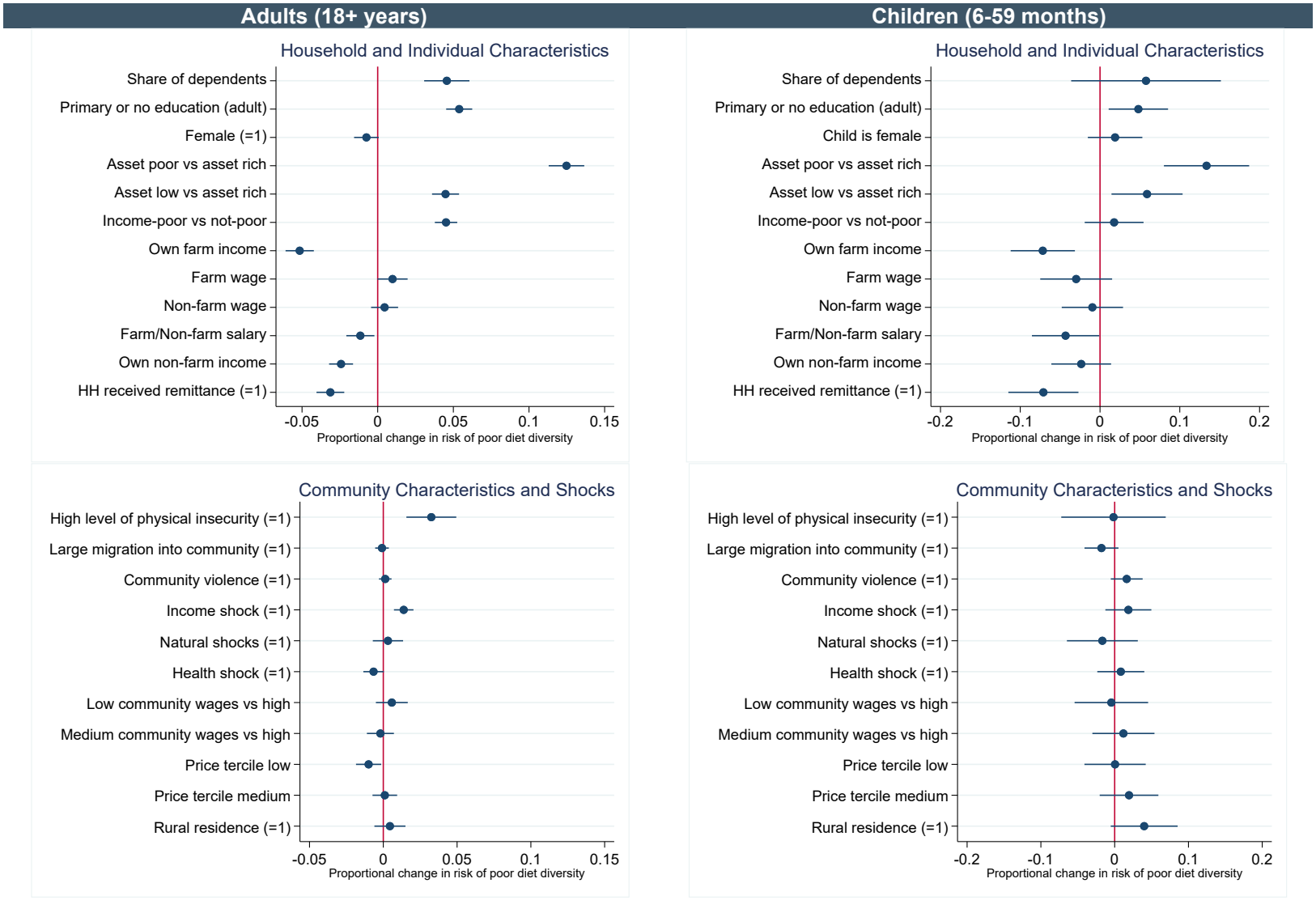
  A low education level of adult members is also a significant risk factor for food insecurity and poor diet quality. A higher share of dependents also increases the likelihood of hunger and poor diet quality at the household and individual level.

Figure 5. Linear probability model regressions of household and community level predictions of the proportional change in the risk of moderate to severe hunger



Note: Additional controls not presented in the figures are age, women-only household, household size, recall day is a special day, survey months and state fixed effects.

Figure 6. Linear probability model regressions of household and community level predictions of the proportional change in the risk of inadequate diet diversity



Note: Additional controls not presented in the figures are age, women-only household, household size, recall day is a special day, survey months and state fixed effects

5. CONCLUDING REMARKS

The combined predicaments of economic and political crises in Myanmar have adversely affected food security and nutrition. Using five rounds of the Myanmar Household Welfare Survey (MHWS) collected from December 2021-February 2022 to April-June 2023, we are able to document trends in food insecurity and inadequate diet diversity for different regions, socioeconomic groups and demographics groups over the course of the year. Our four key findings are as follows.

First, although prevalence of extreme hunger is relatively low, on average, it is far more prevalent in poorer and more conflict affected regions like Chin, Rakhine and Kayin in the latest round of the survey.

Second, among households and adults specifically, there are strong indications of deteriorating dietary quality over the year 2022-23, either in terms of reduced frequency of consumption of nutrient-dense foods such as Vitamin-A rich fruits and vegetables, meat and fish, and eggs, or in adequate dietary diversity in the past 24 hours. We find the largest increase in the prevalence of inadequate diet quality in Sagaing, Shan, and Chin over the survey period while the highest rates are found in Chin, Kayin, Kayah and Rakhine in the latest round of survey.

Third, we find a divergence in the diet quality of adult men and women over our survey period with women experiencing a larger increase in the prevalence of low diet diversity with 9.1 percentage point increase from December-February 2022 to April-June 2022 compared to an increase of just 3.8 percentage points for men.

Fourth, more than 40 percent of all children aged 6-23 months and nearly a quarter (24.9 percent) of children aged 6-59 months have an inadequately diverse diet in the latest round of survey.

Fifth, regression analysis reveals low income and asset ownership to be important risk factors for food security and diet quality, along with conflict and physical insecurity in the past year. Falling income is found to be a significant shock for hunger and diets and is the only shock that significantly affects young children's diets. Even controlling for various forms of poverty and insecurity, wage workers are found to be especially vulnerable to risks of low diet quality, possibly driven by the decline in real wages over the last year (MAPSA 2022b). Adults in communities with higher food prices are also more likely to have poor dietary diversity. In contrast, children and adults from farming households appear to be somewhat less at risk of food insecurity and inadequate diet diversity, as are households that received remittances. Women-only households are found to be vulnerable to food insecurity.

To avert a full-blown nutrition crisis in Myanmar, effective multisectoral steps are required to protect nutritionally vulnerable populations. In the face of multiple economic shocks such as falling income and rising prices, there is a need for renewed implementation of social protection programs, including maternal and child cash transfers, to improve food security and diet quality. Cash-plus programs hold considerable promise in providing resilience to vulnerable households with recent evidence from Maffioli et al. (2023) showing that maternal cash transfers and nutrition behavioral change communication (BCC) had sustained benefits on maternal and child diet diversity during 2020-2021 economic crises which is about three years post-program. Remote implementation through digital cash transfer as well as BCC through phone or online sessions - where phone connections still exist - should be piloted and evaluated.

In addition, recent evidence suggests a faster deterioration of diet quality for women, especially in rural areas. This new and worrying trend of gender gap is disconcerting given the potential threat of intergenerational transmission of inadequate nutrition by this special demographic group, and suggests

not just the need for maternal and child transfers in the first 1000 days, but perhaps also the need for combinations of social protection, nutrition and gender interventions for women.

Another potential avenue for improving welfare of the Myanmar population is facilitating emigration overseas, improving remuneration of overseas migrations and their ability to send money to family members back in Myanmar. Improving the welfare, working conditions and legal rights of Myanmar migrants in countries such as Thailand may also help. Remittances are clearly an effective coping mechanism for households in Myanmar's current political and economic circumstances. At the same time, migration-related disruptions to production and supply chain functions should be monitored and minimized – such as through support to mechanization services – in order to keep the agri-food system functioning as smoothly as possible.

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APPENDIX TABLES

Table A.1 Prevalence of moderate to severe hunger by state, sorted by highest prevalence in R5

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Chin	6.3	9.8	9.1	10	10.1	3.8	0.3
Rakhine	6.1	3.9	6.4	6.1	7.6	1.6	3.7**
Kayin	6	5.1	9.4	6	5.9	-0.2	0.7
Kayah	4.6	11	10.5	4.8	5.3	0.6	-5.7
Tanintharyi	5.6	10	12.7	5.5	5	-0.6	-5.0**
Nay Pyi Taw	7	4	3.1	3	4.7	-2.3	0.6
Bago	2.8	4.8	4.1	5.3	3.9	1.1	-1
Mon	5.5	5.5	6.1	6.8	3.4	-2.1	-2
Kachin	3.4	2.9	1.4	3.8	3.2	-0.1	0.4
Shan	3.6	3.5	2.1	3.2	3.2	-0.4	-0.4
Magway	6.2	4.2	3.2	4.3	2.8	-3.4***	-1.4
Yangon	3.9	3.2	2.5	3.4	2.5	-1.4*	-0.6
Mandalay	3.8	2.7	3	2.9	2.4	-1.4*	-0.3
Ayeyawady	6.6	4.7	5.2	3.7	2.4	-4.2***	-2.4***
Sagaing	1.4	2.4	3	2.4	2.3	0.9	-0.1
No. of obser-vations	12,100	12,142	12,128	12,924	12,953		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.2 Prevalence of low food consumption score (FCS<=38.5) by state/region, sorted by highest prevalence in R5

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Percentages (%)			% points	
Chin	39.3	58	47	48.1	48.4	9.1	-9.6
Kayah	28.5	36.1	26.9	21.3	27	-1.5	-9.2
Kachin	7.1	20.3	11.3	13.1	22	14.9***	1.7
Shan	16.3	21	17.9	18	21.9	5.6***	0.9
Magway	14.2	22.4	25.5	22.7	21	6.8***	-1.4
Ayeyarwady	8.2	15.7	21	16	20.9	12.7***	5.2***
Nay Pyi Taw	8	12.4	10.4	8.9	19.2	11.3***	6.8*
Kayin	7.6	22	20	23.1	19	11.5***	-2.9
Mon	6.2	21.4	17.3	17.6	18.3	12.1***	-3.1
Tanintharyi	6.1	12.4	12.6	14.9	17.8	11.7***	5.4*
Sagaing	7.4	14	14.3	15.4	17.5	10.1***	3.5**
Rakhine	11	19	22.8	18.7	17.1	6.1**	-1.9
Yangon	4.9	12.3	11.4	10.6	14.5	9.6***	2.2
Bago	8.8	15.9	20.1	14.5	13.1	4.3***	-2.9*
Mandalay	9.2	13.8	11.8	13	13.1	3.9***	-0.7
No. of observations	12,100	12,142	12,128	12,924	12,953		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.3 Percentage of adult men consuming different food groups in the past 24 hours

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Cereals, grains, roots & tubers	99.3	98.8	99.6	99.6	99.4	0.1	0.6**
Beans	55.0	53.3	53.1	51.3	51.1	-3.9***	-2.2*
Nuts or seeds	43.4	37.9	36.3	37.2	36.6	-6.8***	-1.3
Milk and dairy products	15.8	16.7	13.3	11.8	11.3	-4.5***	-5.3***
Egg	50.0	47.7	49.2	47.0	49.5	-0.5	1.8
Meat and Fish	89.2	83.5	83.8	86.5	84.4	-4.9***	0.8
Other fruits	38.8	52.3	50.0	50.5	54.3	15.6***	2.0*
Vitamin A rich fruits & veg	47.3	26.7	27.1	29.9	27.9	-19.4***	1.3
Dark green vegetables	85.1	85.5	82.1	84.9	85.3	0.2	-0.2
Other vegetables	82.0	73.9	78.2	79.0	73.6	-8.4***	-0.3
No. of observations	6,029	5,984	5,964	6,428	6,226		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.4 Percentage of adult women consuming different food groups in the past 24 hours

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2	Diff: R5 Male – Female
			Means (%)				% points	
Cereals, grains, roots & tubers	99.4	99.0	99.6	99.6	99.4	0.1	0.4**	-0.1
Beans	52.6	52.1	52.3	46.9	46.2	-6.3***	-5.9***	4.9***
Nuts or seeds	44.3	37.8	35.8	38.0	34.4	-9.9***	-3.4**	2.2
Milk and dairy products	16.9	16.4	14.0	13.7	12.2	-4.7***	-4.3***	-0.8
Egg	55.0	46.6	47.6	46.8	47.6	-7.4***	1.0*	1.9
Meat and Fish	88.5	78.3	80.1	83.3	80.6	-8.0***	2.3**	3.8***
Other fruits	42.4	51.8	50.3	50.2	52.5	10.1***	0.8	1.8
Vitamin A rich fruits/vegetables	51.0	25.2	26.9	31.9	27.6	-23.4***	2.4**	0.3
Dark green vegetables	83.5	82.9	79.6	83.8	83.4	-0.1	0.5	1.9**
Other vegetables	82.0	71.5	76.6	76.6	70.0	-12.0***	-1.4	3.6**
No. of observations	6,071	6,158	6,164	6,496	6,727			

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.5 Percentage of adults with inadequate diet diversity by state/region, sorted by highest prevalence in R5

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Chin	26.2	51.5	33.3	42.8	48.3	22.1**	-3.2
Kayin	28	35	36.8	33.1	35	7	-0.1
Kayah	24.6	42.6	20	21.1	34.3	9.7	-8.3
Mon	26.2	35.6	32.5	34.2	33.4	7.2**	-2.1
Rakhine	34.4	34	36.8	30.5	33.4	-1.1	-0.7
Ayeyarwady	29.5	36.8	35.6	34.6	32.1	2.6	-4.7**
Tanintharyi	26	27.9	32.7	30	30.3	4.4	2.4
Bago	21.9	25.8	35.4	25.9	30.1	8.2***	4.3*
Yangon	22.2	26.8	29.4	25.3	27.7	5.5***	0.9
Magway	19.7	25.5	27.3	23.7	26.3	6.6***	0.8
Shan	13.1	21.7	19.2	19.4	24.2	11.0***	2.4
Mandalay	15.2	19.2	18	18	21.6	6.5***	2.4
Sagaing	10.2	21.4	19.6	18.1	20.9	10.7***	-0.5
Kachin	15.5	27.1	20.6	23.6	19.9	4.4	-7.2*
Nay Pyi Taw	10.8	24.6	24	20.5	19.8	9.0**	-4.8
No. of observations	12,100	12,142	12,128	12,924	12,953		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.6 Percentage of reproductive age women (15-49 years) with inadequate diet diversity

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
National	21.5	29.6	29.1	25.9	30.2	8.7***	0.6
Rural	22.6	31.6	30.5	26.8	31.6	9.1***	0.1
Urban	18.8	25.0	25.5	23.3	26.6	7.8***	1.7
Asset-poor (0-3)	30.1	42.0	37.7	34.7	38.7	8.6***	-3.3
Asset-low (4-6)	20.0	26.1	26.3	22.1	28.5	8.5***	2.4
Asset-rich (7-10)	12.3	17.4	21.0	17.2	19.1	6.7***	1.7
Income poor	24.2	34.1	32.0	29.6	33.6	9.4***	-0.5
Income not poor	17.4	22.2	24.0	18.5	23.7	6.3***	1.4
No. of observations	4,955	5,119	5,197	5,397	5,512		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.7 Percentage of reproductive age women (15-49 years) consuming different food groups in the past 24 hours

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Cereals, grains, roots & tubers	99.3	99.0	99.5	99.6	99.4	0.1	0.5**
Beans	51.7	50.9	51.2	47.3	45.2	-6.4***	-5.6***
Nuts or seeds	42.6	37.3	35.2	38.7	34.2	-8.5***	-3.1**
Milk and dairy products	16.3	16.8	13.7	14.1	12.2	-4.1***	-4.6***
Egg	53.6	45.6	47.0	47.8	48.4	-5.1***	2.8**
Meat and Fish	87.8	77.8	79.5	82.7	80.3	-7.5***	2.5**
Other fruits	41.0	51.2	49.6	49.1	51.6	10.6***	0.4
Vitamin A rich fruits/vegetables	49.7	24.4	26.6	31.6	27.6	-22.0***	3.2***
Dark green vegetables	83.3	82.4	79.4	83.9	82.8	-0.5	0.5
Other vegetables	80.9	71.1	76.4	76.8	69.9	-11.0***	-1.2
No. of observations	4,955	5,119	5,197	5,397	5,512		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.8 Percentage of reproductive age women (15-49 years) with inadequate diet diversity by state/region, sorted by highest prevalence in R5

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Chin	22.1	53.5	33.5	48.3	49.6	27.5	-3.9
Kayah	39.3	50.2	23	26.3	39.8	0.5	-10.4
Kayin	25	33.6	35.6	30.7	38.3	13.3	4.7
Rakhine	38.6	37.7	37.1	29.2	38.1	-0.4	0.5
Mon	25.9	38.4	36.6	28.6	36.4	10.5**	-2
Tanintharyi	32.7	31.7	35.6	32.1	33.9	1.2	2.2
Ayeyarwady	30.1	38.6	37.7	35.8	33.1	3.0**	-5.5*
Bago	25.3	27	36	24.6	32	6.7***	5.1
Yangon	23.1	29.4	30.3	26.9	31.6	8.5**	2.2
Magway	19.2	28.6	32.5	27.7	29.7	10.5***	1.1
Shan	13.3	23.7	18.5	18.4	28.4	15.1***	4.7
Mandalay	15.1	23.5	18.3	20.2	25.5	10.4***	2
Nay Pyi Taw	10.4	28.7	25.6	26.6	24	13.6***	-4.7
Sagaing	9.6	23.8	22.7	19.7	21.5	11.9***	-2.2
Kachin	15.8	24.5	23.6	25.5	20.1	4.3	-4.4

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.9 Percentage of boys consuming different food groups in the past 24 hours

Panel A 6-23 months	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Grains	95.9	96.3	98.8	99.2	95.1	-0.8	-1.2
Legumes & Nuts	43.4	46.2	46.7	47.1	47.8	4.4	1.6
Milk/dairy products	41.2	39.8	33.5	33.2	28.7	-12.5***	-11.1**
Meat and Fish	57.3	55.2	59.0	63.0	54.8	-2.6	-0.5
Egg	49.0	52.5	46.4	47.4	46.9	-2.1	-5.5
Vit-A rich fruits/veg	42.3	54.4	51.8	57.4	55.9	13.6***	1.5
Other fruits/veg	69.0	61.2	58.7	68.8	22.7	-46.3***	-38.5***
No. of observations	339	300	368	364	320		
Panel B 6-59 months	**R1 (Dec 21 to Feb 22)**	**R2 (Apr 22 to Jun 22)**	**R3 (Jul 22 to Aug 22)**	**R4 (Oct 22 to Dec 22)**	**R5 (Apr 23 to May 23)**	**Change R5 – R1**	**Change R5 – R2**
			Means (%)			% points	
Grains	-	98.5	99.6	99.7	98.0	-	-0.5
Legumes & Nuts	-	58.9	57.9	56.4	55.5	-	-3.4
Milk/dairy products	-	34.6	27.6	29.3	29.4	-	-5.2**
Meat and Fish	-	69.4	73.5	76.9	71.6	-	2.3
Egg	-	54.7	56.9	54.2	56.3	-	1.6
Vit-A rich fruits/veg	-	66.8	65.9	65.1	67.2	-	0.4
Other fruits/veg	-	74.9	74.4	77.4	68.2	-	-6.7***
No. of observations		1,094	1,231	1,242	1,111		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.10 Percentage of girls consuming different food groups in the past 24 hours

Panel A 6-23 months	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Grains	94.2	95.3	97.9	98.6	95.7	1.5	0.3
Legumes & Nuts	46.8	43.2	52.5	48.7	46.5	-0.4	3.2
Milk/dairy products	37.9	37.7	34.5	38.0	30.2	-7.7*	-7.5*
Meat and Fish	51.7	58.9	62.4	59.1	56.0	4.3	-2.9
Egg	51.4	40.7	45.9	49.8	50.0	-1.4	9.3**
Vit-A rich fruits/veg	41.9	54.8	54.5	56.6	53.5	11.6**	-1.2
Other fruits/veg	67.7	57.4	65.3	67.2	29.3	-38.4***	-28.1***
No. of observations	339	300	368	364	320		
Panel B 6-59 months	**R1 (Dec 21 to Feb 22)**	**R2 (Apr 22 to Jun 22)**	**R3 (Jul 22 to Aug 22)**	**R4 (Oct 22 to Dec 22)**	**R5 (Apr 23 to May 23)**	**Change R5 – R1**	**Change R5 – R2**
			Means (%)			% points	
Grains	-	97.6	98.9	99.2	98.0	-	0.5
Legumes & Nuts	-	58.3	61.3	59.8	58.5	-	0.2
Milk/dairy products	-	35.7	28.1	29.5	29.1	-	-6.7***
Meat and Fish	-	74.4	73.0	74.4	72.0	-	-2.4
Egg	-	49.8	51.9	56.4	58.5	-	8.7***
Vit-A rich fruits/veg	-	67.8	68.6	68.0	68.1	-	0.3
Other fruits/veg	-	73.3	77.9	76.9	64.6	-	-8.7***
No. of observations		9,98	1,159	1,156	1,117		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

Table A.11 Percentage of households reporting reduction in food expenditure in the past 30 days by food groups

	R1 (Dec 21 to Feb 22)	R2 (Apr 22 to Jun 22)	R3 (Jul 22 to Aug 22)	R4 (Oct 22 to Dec 22)	R5 (Apr 23 to May 23)	Change R5 – R1	Change R5 – R2
			Means (%)			% points	
Reduced food expenditures?	59.4	47.0	46.7	50.0	40.4	-18.9***	-6.5***
Staple grains, roots & tubers	-	29.8	29.5	39.1	39.5	-	9.7***
Beans and nuts	-	26.6	29.9	37.1	35.8	-	9.1***
Dairy	-	21.4	20.5	28.6	29.4	-	8.0***
Eggs	-	26.7	26.3	33.0	32.7	-	6.0***
Meat and Fish	-	86.3	86.8	87.6	89.6	-	3.3***
Fruits	-	38.5	43.0	52.9	49.1	-	10.6***
Vegetables	-	31.7	37.1	45.6	42.1	-	10.4***
Sugary products	-	38.5	45.2	56.4	50.3	-	11.8***
Oils, fats and butter	-	72.9	80.4	84.2	72.7	-	-0.2
Condiments	-	44.1	51.7	63.4	56.8	-	12.7***
Restaurant / takeaway meals	-	47.8	54.5	57.8	54.0	-	6.2***
No. of observations	12,100	12,142	12,128	12,924	12,953		

Note: Asterisks refer to the level of statistical significance in the difference in means across Rounds: *p<0.10,** p<0.05,*** p<0.01.

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