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Welfare and vulnerability

Findings from the second round of the Myanmar Household Welfare Survey (April – June 2022)

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ABSTRACT

The second round of the Myanmar Household Welfare Survey (MHWS), a nationally and regionally representative phone survey, was implemented between April and June 2022. It follows from a first round that was carried out between December 2021 and February 2022. This report discusses the findings from the second round related to shocks, livelihoods, coping strategies and food security. We find that 19.6 percent of households reported security and climatic shocks in the three months prior to their interview. Further, there is an uptick in reported crime, violence, and insecurity across communities in the second round, compared with the first. Theft is also an important issue, with 3.2 percent of households burglarized. Fifty-five percent of households report a lower income in the beginning of 2022 compared to 12 months earlier. Eighty-three percent of households use at least one coping strategy to meet daily needs during the month prior to the survey. The three most common copying strategies are spending savings, reducing non-food expenditure, and reducing food expenditure. Seventeen percent of households have poor or borderline food consumption, more than in round one (R1), when the share was 9.4 percent. This change is in part driven by a decrease in animal-sourced food consumption, from 5.0 days a week in R1, to 3.9 days a week in round two (R2). Finally, hunger is an issue for 4.0 percent of households. Regression analysis reveals that self-reported community insecurity and climatic shocks are strongly associated with negative outcomes for income, coping, and food security. Finally, households in Kayah and Chin are the most vulnerable; they report insecurity, violence, and crime in their communities and compared to the other states/regions are more likely to have income loss, poor food consumption and hunger.

1. INTRODUCTION

Myanmar is suffering from security, economic, and pandemic-related crises. Following the military takeover on February 1, 2021, conflicts have intensified across the country. With the exception of Yangon, Nay Pyi Taw, and Ayeyawady fighting worsened across the country. The most violence was recorded in Kayah, Chin, Sagaing, Kachin, Kayin and Magway (Appendix figure A.1). On top of the worsening security situation, the economy continues to struggle. While the COVID-19 infection rates decreased between January and June 2022, many households still feel the economic burden of the pandemic, especially in terms of reduced incomes. Further, Myanmar is facing an ongoing inflation crisis. The average cost of a basket of food in Myanmar increased by 14.1 percent from December-February to April-June 2022. As a result of lower incomes and higher food prices, household food and nutrition security are at risk. Finally, because of the crisis in Ukraine, transport costs and input costs continue to increase, endangering the productivity and profitability of agriculture and in turn farmer and consumer welfare.

This paper provides an overview of the vulnerability of households across Myanmar for the second round of the Myanmar Household Welfare Survey (MHWS). MWHS is a nationally, urban/rural and state/region representative phone survey. The second round was carried out between April and June 2022, four months after the start of the first round which was carried out between December 2021 and February 2022 (MAPSA, 2022a; MAPSA, 2022b). The second-round sample has 12,142 households. First, the paper examines the security, climatic, and health shocks that Myanmar households face. Second, the paper explores livelihoods and changes in income for Myanmar's households. Third, the paper studies the coping strategies households' employ to meet daily needs. Finally, the paper looks at household food and nutrition insecurity.

The paper is organized as follows: Section two describes the data and methodology. Section three shows descriptive results, including shocks experienced, the main livelihoods of the population, changes in income, coping strategies that households employ, food consumption patterns, and the experience of hunger. Section four is an exploration of characteristics associated with income changes, food consumption and coping. Section five concludes.

2. DATA AND METHODOLOGY

The analysis presented in this paper relies on data from the second round of the MHWS. The second round of MHWS was collected through phone survey interviews between April and June 2022 with 12,142 respondents. The survey intends to monitor household and individual welfare through a range of different indicators including wealth, livelihoods, food insecurity, diet quality, health shocks, and coping strategies. A novel sampling strategy in combination with the development of household and population weights allows for estimates that are nationally, regionally, and urban/rural representative (MAPSA 2022a; MAPSA 2022b).

The quantitative analysis is mainly descriptive and employs relatively straightforward indicators, though the indicators related to shocks, food consumption, and household hunger require elaboration. The shock indicators include self-reported shocks as well as a township-level

indicator for violent shocks based on secondary information from the ACLED dataset[1]. The latter is based on the sum of all battles, explosions, and violence reported in the ACLED dataset in the three months prior to the interview. As interviews were conducted in three different months, each observation is matched with the indicator that sums these events during the three months preceding the survey, i.e. January-March for interviews conducted in April, February-April for interviews in May, and March – May for interviews in June.

The food consumption score (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 in the past seven days (World Food Programme, 2018). 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). We use the maximum number of days reported within the sub-categories of each food group as opposed to the alternative option to sum of the sub-categories truncated at 7 days.

The household hunger scale (HHS) 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). Answers to these questions are used to classify households into three groups: little to no, moderate, or severe hunger.

We also employ exploratory regression analyses to obtain a better understanding of which households are more likely to experience negative welfare. We use a random effects panel regression to estimate the impact of shocks on the likelihood of being economically affected, having poor food consumption, and hunger. We apply a tobit model to estimate the impact of shocks on the number of coping mechanisms. Note that the size of the coefficients is not comparable across different types of regression models.

3. DESCRIPTIVE RESULTS

3.1 Shocks

Ongoing conflict in Myanmar, which has intensified since the military coup in February 2021, poses threats to household livelihood and wellbeing. Climatic shocks, including heavy and/or irregular rains and winds, can also pose threats to livelihoods, especially for rural farming households. On top of the degrading security situation and the possibility of climatic shocks, COVID-19 continues to threaten the wellbeing of Myanmar's people. In the MHWS respondents were asked about different shocks that they themselves, their households, or their communities experienced in the past three months. Depending on the date the household was interviewed, the past three months include January-April, February-May, or March-June of 2022.

Across Myanmar, 19.6 percent of households felt that their community was very or somewhat insecure (Table 1). A larger percentage of urban households (23.0 percent) felt that their community was insecure compared to rural households (18.6 percent). More households reported

[1] https://acleddata.com/

feeling insecure in R2 compared to in R1 (September-November for interviews conducted in December 2021, October-December for interviews in January 2022, and November-January for interviews in February 2022).

The number of households who felt insecure in their community varied greatly by region (Figure 1 and Table A.1). The three states/regions where households felt the most insecure were Kayah State (55.3 percent of households felt insecure), Chin State (53.7 percent), and Kachin State (45.6 percent). The lowest levels of reported insecurity continue to be in Nay Pyi Taw (8.6 percent), Ayeyarwady (9.4 percent), and Bago (11.1 percent). Between the two rounds, the number of households feeling insecure in Kayah and Sagaing states increased significantly, by 15.9 and 11.0 percentage points, respectively. At the same time, the feeling of insecurity declined among households in Mon and Ayeyawady.

In addition to feeling insecure, 24.2 percent of urban households and 18.0 percent of rural households also felt a low level of trust in their communities. Again, respondents in Chin (42.8 percent) and Kayah (39.2 percent) had the lowest levels of social trust in their communities. In Sagaing and Magway, levels of community trust declined from the last period. Community insecurity and lack of social trust may be a result of an uptick in crime or violence in the community.

Nationally, 8.7 percent of households reported that crime occurred in their communities', and 7.0 percent of households reported that violence occurred in their communities. Both crime and violence were more widespread in urban areas than in rural areas. At the same time, it was difficult to survey rural respondents in conflict states, so it is likely that households in particularly precarious situations were not interviewed (MAPSA 2022b). At the regional level, the states/regions that reported the most crime in their communities in the previous three months were Kachin (27.4 percent of households), Kayah (17.5 percent) and Yangon (16.9 percent). The three states where households reported the most violence in the previous three months were Chin (27.3 percent), Sagaing (15.1 percent), and Kayah (15.0 percent). Households in Sagaing and Ayeyawady reported increases in crime and violence compared with the previous period, though after Nay Pyi Taw, Ayeyawady still has the lowest level of reported crime and violence. Residents of Nay Pyi Taw saw a decrease in violence in the past three months to .05 percent, or almost no violence at all.

Respondents were also asked if in the past three months their household (rather than their community) was negatively affected by violence and crime. Overall, 0.71 percent of households were affected by violence against a household member, 0.82 percent of households suffered the destruction of an asset, and 3.2 percent of households were impacted by theft. At the same time, numbers from Chin and Kayah States are alarming (Table A.2). In Chin, 9.8 percent of households were negatively impacted by violence against a household member, 13.3 percent of households suffered damage to an asset, 13.6 percent of households had an asset appropriated, and 10.3 percent of households suffered from theft. In the previous period, 0.2 percent of households in Chin reported direct violence. In Kayah state, 10.0 percent of households experienced the destruction or damage of an asset, while 12.8 percent of households were burglarized.

In addition to shocks from insecurity, Myanmar is also prone to climate shocks. The recall period for R2 spans Myanmar's three seasons, the cool dry season in January and February, the

dry season in March and April, and the Monsoon season, that begins in May. Twelve percent of households reported facing at least one climatic shock. Although everyone's recall period included the dry season, only 0.6 of households reported drought as an issue, which were mainly in Chin and Kayah. At the same time, 5.2 percent of households experienced excessive rainfall, mainly in Chin, Sagaing, and Tanintharyi. It should be noted that most of the households reporting excessive rainfall were interviewed in May and June, the beginning of the rainy season. Finally, 6.4 percent of households encountered strong wind. This was particularly an issue for households in Rhankine, Mandalay, and Sagaing. Fewer households experienced drought and excessive rainfall, compared with the last period, while more households battled high wind.

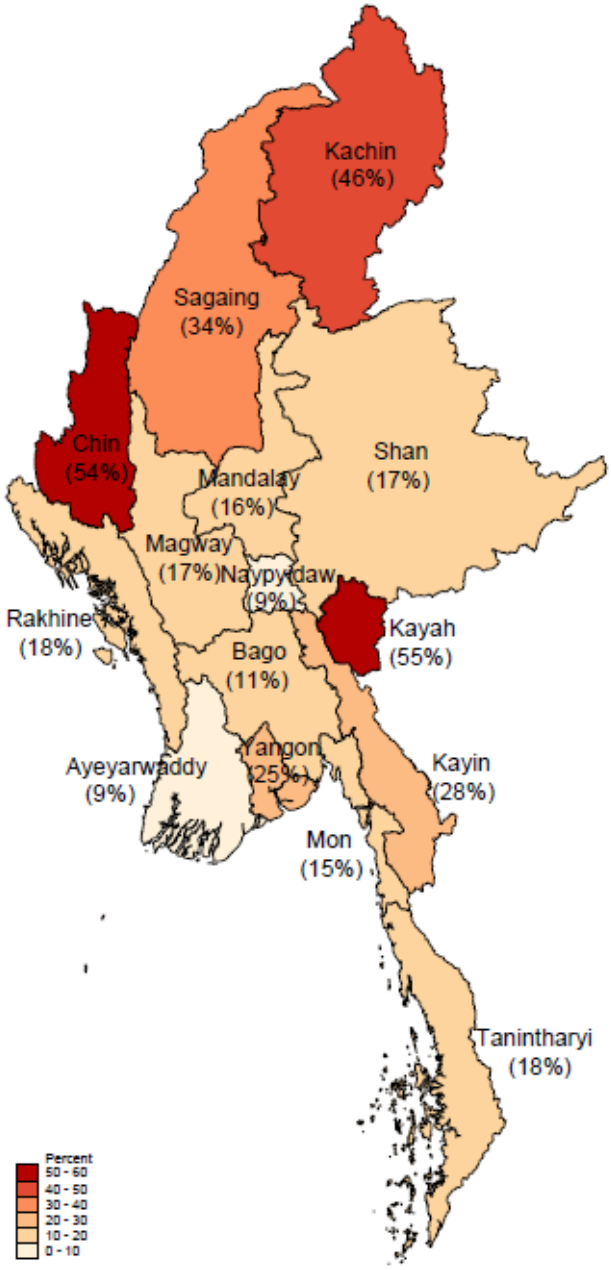
In the past three months, 26.5 percent of households reported having one or more family members with COVID-19 symptoms. Further, households reporting infections declined by interview month; 32.2 percent of households with a recall period of January-April reported cases, 26.7 percent of households with a recall period in February-May reported cases, compared with 19.9 percent with a recall period of March-June. This corresponds with WHO data, which demonstrates an uptick in COVID-19 cases during February 2022, and a subsequent decline thereafter (WHO 2022).

Table 1. Physical insecurity and trust in the community, climatic shocks, and health shocks in the past three months, % of households

	National R1	National R2	Rural R2	Urban R2
Feels insecure in community	18.55	19.61*	18.28***	23.03
Low levels of social trust in community	19.73	20.03	18.09***	25.00
Increase in crime in community	7.66	8.71**	6.66***	13.97
Violence in community	6.31	7.00*	6.18***	9.10
Negatively affected by climatic shock	10.91	12.06**	13.87***	7.41
Drought	1.72	0.60***	0.80***	0.10
Excessive rainfall	6.77	5.21***	6.03***	3.09
Irregular rainfall or temperature	2.54	2.14*	2.42***	1.43
Strong wind	0.38	6.35***	7.30***	3.92
Health shock (COVID-19)	39.21	24.90***	24.82	25.09
Observations	*12,100*	*12,142*	*8,425*	*3,717*

Note: Asterisks on Rural R2 show statistically significant differences between rural and urban observations. Asterisks also show differences between and within R2 and R1 households; * p < 0.10, ** p < 0.05, *** p < 0.01.

Figure 1. Percentage of households who felt insecure in their community in the past three months, by State or Region



3.2 Livelihoods and economic status

To understand how individuals can cope with shocks, understanding their livelihoods and how they are impacted by the different shocks is essential. Table 2 shows the main sources of employment for households in Myanmar between January and June 2022, or the three months before the R2 interview. On average, households in Myanmar earned income from 2.01 different income generating activities. This is an increase from the previous period, where households reported on average 1.85 income generating activities (Table 2). Households had slightly more diversified income streams in rural areas, 2.08, compared to in urban areas, 1.81.

The primary sources of employment and income between January and June 2022 were working in an own or household non-farm enterprise (43.8 percent of households) followed by crop farming (38.5 percent of households). For 27.6 percent of households, owning a non-farm enterprise was their main source of income (Table A.1). Crop farming provides the main source of income for 22.6 percent of households (Table A.1). Other important sources of employment include non-agricultural and agricultural wage work (27.8 percent and 20.2 percent, respectively) and non-agricultural salaried work (21.9 percent). Compared to the previous period, the percentage of households receiving the majority of their income from own crop farming decreased by 2.0 percentage points and the percentage of households receiving most of their income from agricultural wage work decreased by 2.4 percentage points. This is likely because the recall period for R1 (September through January) was at the end of the monsoon season and included the principal harvest period for rice, maize, pulses, and oilseeds. The recall period for R2 includes the second harvest of maize and rice, as well as the harvest of pulses in the Delta region. Finally, income from non-agricultural wage work increased from the previous round (2.4 percentage point decrease).

About 24 percent of households also receive incomes from remittances, gifts, donations, pensions, and other assistance. The number of households receiving remittances increased from 8.2 percent of households in the previous period to 13.3 percent of households in the current period. Remittances also increased as the main source of household income from 3.0 percent to 4.4 percent of households. This may be due to the lifting of COVID travel restrictions, which allowed more people to migrate.

There are significant differences in livelihood patterns between rural and urban areas. First, rural households have a much larger engagement in the farm sector with 50.6 percent engaged in crop farming, 19.4 percent rearing livestock, and 3.1 percent engaged in fishing/aquaculture (Column 2, Table 2). In urban areas, only 7.6 percent of households farm. Rural households, however, still rely on the non-farm sector for income; income from non-farm enterprise and non-farm wage work are the second and third largest sources of income for rural households after crop farming. Further, rural households are significantly more likely to receive remittances compared to urban households (13.8 percent versus 12.0 percent), and remittances are more often the main source of income for rural households (5.0 percent versus 3.0 percent). Urban households are more likely employed in non-farm enterprises and salaried and non-salaried non-farm wage work. Urban households receive assistance more often in the form of gifts, donations, pensions or other (15.3 percent of urban households compared to 8.7 percent of rural households). Finally, the percent of urban households receiving income from these sources increased considerably from the previous period.

Table 2. All sources of household income or employment in the last three months

	National R1	National R2	Rural R2	Urban R2
Number of different income sources	1.8	2.0***	2.1***	1.8
Own or household non-farm enterprise (%)	44.0	43.8	38.2***	58.4
Own or household crop farm (%)	36.8	38.5**	50.6***	7.6
Own or household livestock business (%)	11.9	15.0***	19.4***	3.8
Own or household fishing or aquaculture business (%)	2.5	3.1**	4.0***	0.7
Salaried work– non-agriculture (%)	20.2	21.9***	14.2***	41.4
Salaried work– crop farming (%)	0.7	0.8	0.8	0.9
Salaried work– fishing or aquaculture (%)	0.4	0.3	0.4	0.2
Salaried work– livestock (%)	0.2	0.2	0.2	0.1
Wage work– non-agriculture (%)	23.7	27.8***	26.0***	32.1
Wage work– crop farming (%)	23.8	20.2***	27.0***	3.0
Wage work– fishing or aquaculture (%)	0.8	0.6	0.8***	0.2
Wage work– livestock (%)	0.3	0.2	0.3	0.2
Remittances (%)	8.2	13.3***	13.8**	12.0
Gifts, donations, pensions, or other assistance (%)	7.6	10.6***	8.7***	15.3
Renting out of land or properties (%)	2.4	3.3***	2.7***	4.9
No employment and no income sources (%)	0.7	0.6	0.6	0.4
Number of observations	*12,100*	*12,142*	*8,425*	*3,717*

[a] The different employment or income sources are specified according to the (sub-) categories shown in this table.
Note: Asterisks on Rural R2 show statistically significant differences between rural and urban observations. Asterisks on National R2 show differences between R2 and R1 households; * p < 0.10, ** p < 0.05, *** p < 0.01.

When asked how their total household income in the past three months compares with their total household income in the same period one year ago, the majority of households (55.4 percent) reported a reduction in income, with 38.0 percent facing a large reduction in income (greater than 20 percent) and 17.3 percent experiencing a small reduction in income (1 – 20 percent). Fewer households reported income losses in the past three months, compared to the three months before that (65 percent of households last round reported income losses, with 45 percent experiencing large reductions in income). Forty percent of households reported income losses in both periods, while 23 percent of households reported income reductions in the first period only, and 13 percent of households reported income reductions in the second period only.

When looking at income reduction by main source of income, we find that households employed in every sector experienced some income loss (55.4 percent). First, 52.9 percent of households whose main source of income this period is the farm sector reported lower income in the past three months compared with in the same period last year. This includes 53.0 percent of self-employed farmers, 43.3 percent of households depending on salaried farm work, and 63.5 percent of household dependent on income from farm wage work. Second, 54.1 percent of households whose main source of income this period is the non-farm sector reported lower

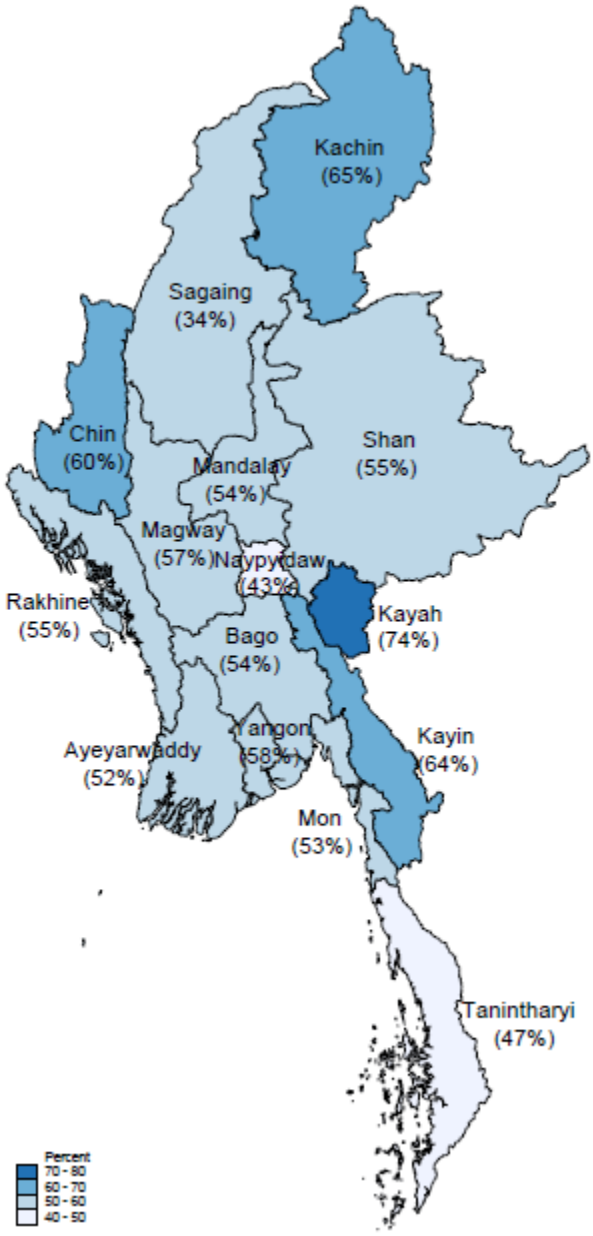
income this period. This includes 60.6 percent of households whose main source of income comes from non-farm self-employment, 41.9 percent of households depending on non-farm salaried jobs, and 59.6 percent of households earning income from non-farm wage work. Across all sectors, however, fewer households reported reductions in income over the past three months, compared to in the previous round. Specifically, non-farm workers including, self-employed, salaried, or wage workers, all reported much less income loss compared to a year ago then they did in the previous round. It should be noted that, since we base the comparison on the main source of income this period, some estimates may be incorrect since it is possible that principal sources of income changed from one year ago.

Table 3. Percentage of households observing different total household income compared to one year ago, by main livelihood source

	Large reduction (>20%)	Small reduction (1-20%)	No change (%)	Small increase (1-20%)	Large increase (>20%)
All household	38.0	17.3	26.9	12.9	4.8
Self-employment					
Farm (crops, livestock and aquaculture)	34.8	18.2	26.4	14.4	6.2
Non-farm (any other)	41.9	18.7	23.0	11.3	5.0
Salaried employment					
Farm (crops, livestock and aquaculture)	27.1	15.2	39.9	13.5	4.4
Non-farm (any other)	25.7	16.2	37.2	16.0	4.9
Casual wage work					
Farm (crops, livestock and aquaculture)	46.9	16.6	25.2	8.5	2.8
Non-farm (any other)	42.7	17.0	24.6	12.4	3.3
Other incomes sources					
Remittances	34.0	14.6	31.3	14.9	5.2
Gifts, donations, pensions, or other assistance	41.5	12.6	34.6	7.2	4.0
Renting out of land or properties	40.3	9.9	25.0	20.2	4.6

To compare households' economic vulnerability across states and regions we classify households as being economically affected if they experienced a large or small reduction in income or if they had no income at all in the past three months. Figure 2 and Table A.3 show the share of economically affected households in each State and Region of the country. Other than Nay Pyi Taw and Tanintharyi, all states had more than half its household's experience reductions in income, compared to one year ago. Households in Kayah, Kachin, Chin, and Kayin suffer from the highest economic vulnerability, 74.4, 64.9, 64.5 and 64.1 percent respectively. While fewer households in all other states reported income reductions in the current period compared to the last, the same number of households in Kachin, Chin, Kayin, and Rakhine, reported income reductions in both periods. Moreover, it is important to note that this is a comparison to last year, so it masks any chronic precariousness and vulnerability of households.

Figure 2. Percentage of households who had no or reduced income in the past three months compared to one year ago, by State or Region



Households were asked to report the main challenge they faced in the last three months, based on their principal source of income. Households earning income from wages or salaries, reported a substantial decline in challenges in the past three months, compared with the three months prior to that (Table A.4). Only 22.8 percent of workers reported reduced working hours or less work as their main challenge, compared to 43.4 percent in the previous period. Further, only 10.8 percent of wage/salaried workers reported low/reduced wages as their principal challenge, compared with 20.9 percent in the previous period. Finally, only 3.9 percent of workers reported not being able to work because of own health problems or those of another family member as their principal challenge, compared with 18.9 percent last period. The main challenges that farmers faced in the

past three months were high prices of inputs or mechanization services (28.8 percent), weather (14.4 percent), and pests and diseases (9.0 percent), all three of which declined this recall period, compared to last (Table A.5). For non-farm enterprises, high prices of raw materials continued to be a problem in this period compared with the last (the main challenge for 14.0 percent of non-farm enterprises) (Table A.6). Further, increasing fuel prices became a bigger issue this period, with 10.8 percent of non-farm enterprises reporting high fuel prices as the main issue they faced. While businesses still faced issues with finding customers interested in purchasing their products (15.9 percent) and reaching customers physically (6.1 percent), both issues declined significantly from the previous period.

3.3 Livelihood coping strategies

To alleviate the impact of lower incomes during Myanmar's ongoing crises, households have used a wide range of coping mechanisms. In the MHWS, households were asked to identify all the coping strategies they used in the past 30 days to cope with lack of food or money. Overall, 83.3 percent of households used at least one coping mechanisms to deal with lack of food or money in the past 30 days, 85.0 percent of rural residents and 78.8 percent of urban residents (Table 4). Seventy-four percent of panel households reported using coping mechanisms both in R1 and R2. On average, households reported using three different coping mechanism over the past 30 days, less than the number they reported last period, 3.7.

Overall, the most common coping strategies were spending savings (67.8 percent), reducing non-food expenditures (55.7 percent), and reducing food expenditures (54.5 percent). More households spent savings in rural areas than in urban areas. Thirty-six percent of households had to reduce both their food expenditure and their non-food expenditure, while 20.8 percent of households had to reduce food and non-food expenditure and also spend their savings. Overall, fewer households reported using these coping strategies in the past 30 days compared with households in the first round. But 37.4 percent of households had to reduce non-food expenditure in both periods, 19.8 percent spent their savings in both periods, while 30.2 percent had to reduce food expenditure in both periods. Finally, households who had to reduce their food expenditure did so mainly by decreasing their spending on meat (84.6 percent), fish (74.2 percent), oils, fats, and butter (72.9 percent), and restaurant or takeaway meals (47.8 percent) (Table A.7). More rural households reported decreasing their expenditures on animal sourced foods than urban. From R1 to R2 the price of chicken increased by 26 percent, while the price of fresh fish increased by 13 percent. Further, the price of cooking oil increased by 49 percent.

The number of households who borrowed money (36.9 percent) or purchased food on credit (32.7 percent) also decreased significantly from the previous round. In rural areas it was more common to borrow money or purchase food on credit. This is likely related to better social networks among rural communities which facilitate borrowing. To meet daily needs, some households mortgaged household assets (16.4 percent) or sold household assets (12.4 percent). Household assets include gold, jewelry, furniture, technology, and appliances. The most common asset sold and mortgaged was gold and/or jewelry. Seven percent of households had to mortgage an asset in both periods, while 4.7 percent had to sell an asset in both periods. In urban areas, it was more common to sell household assets compared to in rural areas. Three percent of households sold non-agricultural productive assets, and less than one percent mortgaged these

assets. Non-agriculture productive assets include sewing machines, wheelbarrows, bicycles, cars, and other means of transportation. While less than .04 percent of households mortgaged non-agricultural productive assets in both periods, .71 percent of households sold productive assets in both periods. Finally, some households also mortgaged or sold critical assets such as their dwelling (1.9 percent) or agricultural land (0.4 percent). Households in rural areas were more likely to use these strategies than urban households. Given the recall period of 30 days, the number of households that have mortgaged and/or sold household assets is concerning.

Households have also pursued risky activities to meet their daily needs. This includes 3.6 percent of households that are engaged in income-generating activities that they themselves consider risky, and 7.3 percent of households where children had to work to complement household incomes. Both of these copying strategies were more common in rural areas, compared to urban areas. While most of the households who engaged in a risky activity in the first round stopped pursuing this income generating strategy in the second round, 14.9 percent of households had children working in both rounds. Further, more households reported children needing to work in R2 compared with in R1, the only copying strategy that more households used in R2. Finally, 1.4 percent of families migrated with their entire household to deal with the dire economic situation.

Farm households were asked about a specific set of farm-related coping mechanisms. Nationally, 53.2 percent of households reduced agri-input expenses. Households also consumed or sold their seed stocks (22.7 percent) and sold other agricultural assets (1.4 percent). The most common agricultural asset sold was livestock. Reducing agri-input expenses, selling and/or consuming seed stocks, and selling agricultural assets will most likely lower yields with the potential to create food shortages across the country.

Figure 3 and Table A.8 show coping strategies in each State and Region of the country. The dire situation of households in Kayah, Chin, and Kachin States is immediately apparent. In Kayah State, 96.6 percent of households used at least one coping mechanism in the past 30 days, and households used on average 4.4 different coping mechanisms. Similarly, in Chin State 92.7 percent of households applied at least one coping mechanism, and 3.1 mechanisms on average. In Kachin, 91.5 percent of households used at least one coping mechanism, and the average household used 3.5 mechanisms. Further, Kayah, Chin, Kachin, and Rakhine are the only states that did not see a decrease in the percent of households using a copying mechanism, compared with the last period. A few other alarming statistics coming out of these states is the percent of household who engaged in high-risk activities to meet daily needs, including 10.9 percent in Chin, 9.3 percent in Kachin, and 9.1 percent in Kayah. Further, in Kayah, an alarming 22.5 percent of households had children working while in Chin, 17.4 percent had children working. In Kayah and Chin States, 14.1 percent, and 13.7 percent of households, respectively, either mortgaged or sold their houses. Households also migrated from these states, 9.9 percent in Kayah and 7.9 percent in Chin.

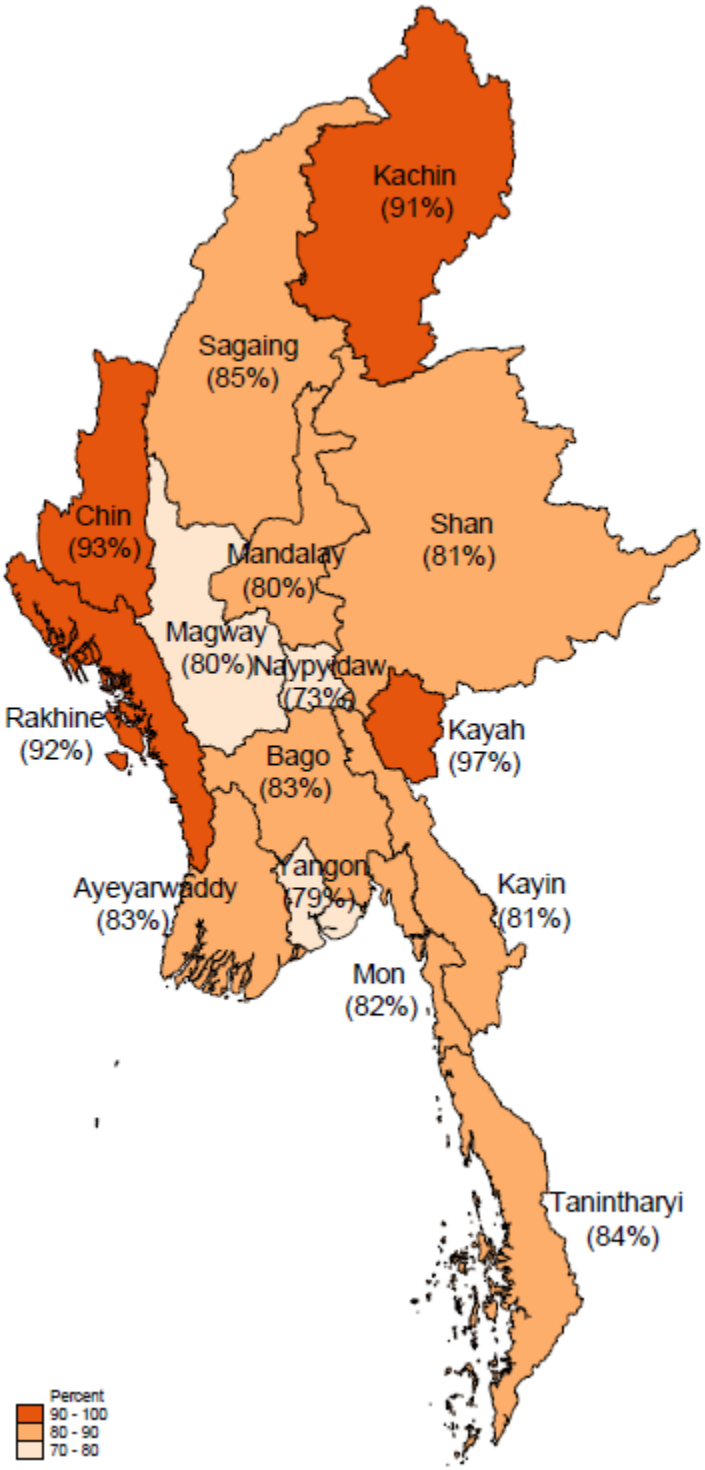
There were also regional differences between the number of farmers applying different coping strategies. In Kayah, 89.8 percent of farmers reported reducing their agri-input expenses, compared to only 51.4 percent in the last round. It is also alarming that in Rakhine 69.1 percent of farming households reduced their agri-input expenses and in Tanintharyi, 58.2 percent of farming households reduced their agri-input expenses.

Table 4. Coping mechanisms used to deal with lack of food or money in the past 30 days

	National R1	National R2	Rural R2	Urban R2
Uses at least one coping mechanism	83.3	85.0***	78.8***	89.8
Number of coping mechanisms used	3.0	3.1***	2.7***	3.7
Reduced non-food expenditures	55.7	55.8***	55.4	65.7
Reduced food expenditures	54.5	55.5***	51.8***	67.0
Reduced expenditures on health	34.6	35.8***	31.5***	41.0
Spent saving	67.8	69.4***	64.2***	76.1
Borrowed money	36.9	39.8***	29.4***	45.2
Purchased food credit or borrow	32.7	36.4***	23.0***	42.1
Mortgaged household assets[1]	19.7	20.6***	17.5***	23.9
Sold household assets [1]	15.1	13.9***	17.9***	20.1
Mortgaged non-agri productive assets or means of transport[2]	0.8	0.7	1.1*	1.0
Sold non-agri productive assets or means of transport[2]	3.3	3.2***	3.6	4.7
Mortgaged/sold house	1.9	2.1	1.3**	1.7
Mortgaged/sold land	0.4	0.6	0.1***	0.5
Mortgaged/sold others[3]	1.8	1.4	2.6***	1.6
Engaged in high-risk activities	3.6	4.1***	2.2***	4.5
Children need to work (under 15)	7.3	8.5*	4.0***	6.4
Migrate entire HH	1.4	1.4	1.4	1.3
Reduced agri-input expense (ag HH only)[4]	53.2	54.0***	39.6**	60.3
Sold or consumed seed stocks (ag HH only) [4]	22.7	23.2*	13.4**	25.3
Mortgaged/sold agri productive assets (ag HH only)[4]	1.4	1.9***	0.2***	1.9

[1]Household assets include radio, furniture, television, jewelry, etc. [2]Non-agric productive assets include sewing machine, wheelbarrow, bicycle, car, etc. [3]Others include phones, hair, clothes and other utensils; [4]Farm households only; 5,605 observations.
Note: Asterisks on Rural R2 show statistically significant differences between rural and urban observations. Asterisks on National R2 show differences between R2 and R1 households; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure 3. Percent of households applying at least one coping mechanism, by State or Region



3.4 Food consumption and hunger

The FCS combines data on the frequency and the diversity of food groups consumed over the previous seven days and is calculated by weighting the groups according to their relative nutritional value. Table 5 shows the food consumption score by food groups. Cereals, grains, roots, and tubers are consumed for 7.0 days in both urban and rural areas. Oils, fats, and butter are consumed almost as frequently, 6.7 days, with more consumption in urban areas, compared to rural. Dairy is only consumed .87 days, while meat, fish and eggs are only consumed 3.9 days a week. The consumption of both groups is more common in urban areas, compared to in rural areas. Sugar and/or sweets consumption is also higher in urban areas, 2.6 days compared with 1.9 days in rural regions.

At the national level, 15.7 percent of households have borderline food consumption, while 1.2 percent of households have poor food consumption. There was a significant increase in the percent of households with borderline and poor food consumption, compared to the previous period. This was mainly driven by a decline in meat, fish, eggs, and fruit consumption. In rural areas, borderline food consumption (17.6 percent) was much higher than in urban areas (10.7 percent). Poor food consumption was also significantly higher in rural areas, 1.4 percent, compared with 0.7 percent in urban areas. Of the households with poor food consumption in R2, 67.7 percent had acceptable food consumption in R1, and 26.5 percent had borderline food consumption. Six percent of households had poor food consumption in both periods. On the other hand, 19.6 percent of households had borderline food consumption in both periods, while 11.4 percent of the households with acceptable food consumption in R1, had borderline consumption in R2. At the same time many of the households with poor or borderline food consumption in R1, were able to improve their consumption to acceptable in R2.

There were large differences in the FCS across states/regions (Table A.9). The FCS decreased across all states/regions, compared to the previous round, with the exception of Chin and Kayah. Although it did not decrease, the FCS remained lower in Chin (FCS: 42.9) and Kayah (FCS: 44.1) than in all other states. Only 42.0 percent of Chin households and 63.9 percent of Kayah households had acceptable food consumption. What is alarming in both states is the jump in the number of households with poor food consumption, from 4.2 percent in September-January to 14.4 percent in January-June for Chin and from 1.0 percent to 12.0 percent over the same period in Kayah. Further, Magway, Shan, Kayin, Kachin, Mon, and Rakhine, all had higher than average (9.4 percent) borderline and poor food consumption.

Table 5. Number of days consuming different food groups and FCS based on seven-day recall, nationwide and by urban/rural

	National R1	National R2	Rural R2	Urban R2
Cereals, grains, roots & tubers	7.0	7.0	7.0	7.0
Pulses/legumes/nuts	3.1	2.5	2.5	2.5
Milk and other dairy products	1.2	0.9	0.7***	1.4
Meat, fish, and eggs	5.0	3.9	3.6***	4.5
Vegetables and leaves	5.2	5.5	5.5*	5.4
Fruits	2.5	3.5	3.5	3.4
Oil, fat, and butter	6.6	6.7	6.7***	6.8
Sugar or sweet	3.3	2.1	1.9***	2.6
Food Consumption Score	60.9	53.9	52.1***	58.5
Acceptable food consumption	90.6	83.2	81.0***	88.6
Borderline food consumption	8.9	15.7	17.6***	10.7
Poor food consumption	0.5	1.2	1.4**	0.7
Number of observations	*12042*	*12142*	*8425*	*3717*

Note: Asterisks on Rural R2 show statistically significant differences between rural and urban observations. Asterisks have been omitted on National R2 because there is a significant difference between R2 and R1 households for all categories; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6 shows the prevalence of hunger at the national, and rural/urban level for households across Myanmar. Within a recall period of seven days, 9.7 percent of households had no food of any kind in the house on at least one day. This was more common in rural areas, 10.1 percent, compared with urban areas, 8.5 percent. This decreased from the previous period, in which 11.6 percent of households had no food in the house for one day. In 3.8 percent of households at least one member went to sleep hungry on one or more days, and in 1.6 percent of households one member or more went at least one whole day and night without food. In total, 3.7 percent of the population experiences moderate hunger, and 0.3 percent faces severe hunger. While in the previous round the incidence of hunger was significantly higher in rural areas (4.7 percent of households) as compared to urban areas (3.9 percent), in this round, there was no significant difference, with 3.9 percent hunger in rural areas, compared with 4.1 percent in urban areas. Kayah, Chin, and Tanintharyi states had the highest levels of hunger, with 11.0 percent, 9.8 percent, and 10.0 percent of their populations hungry, respectively.

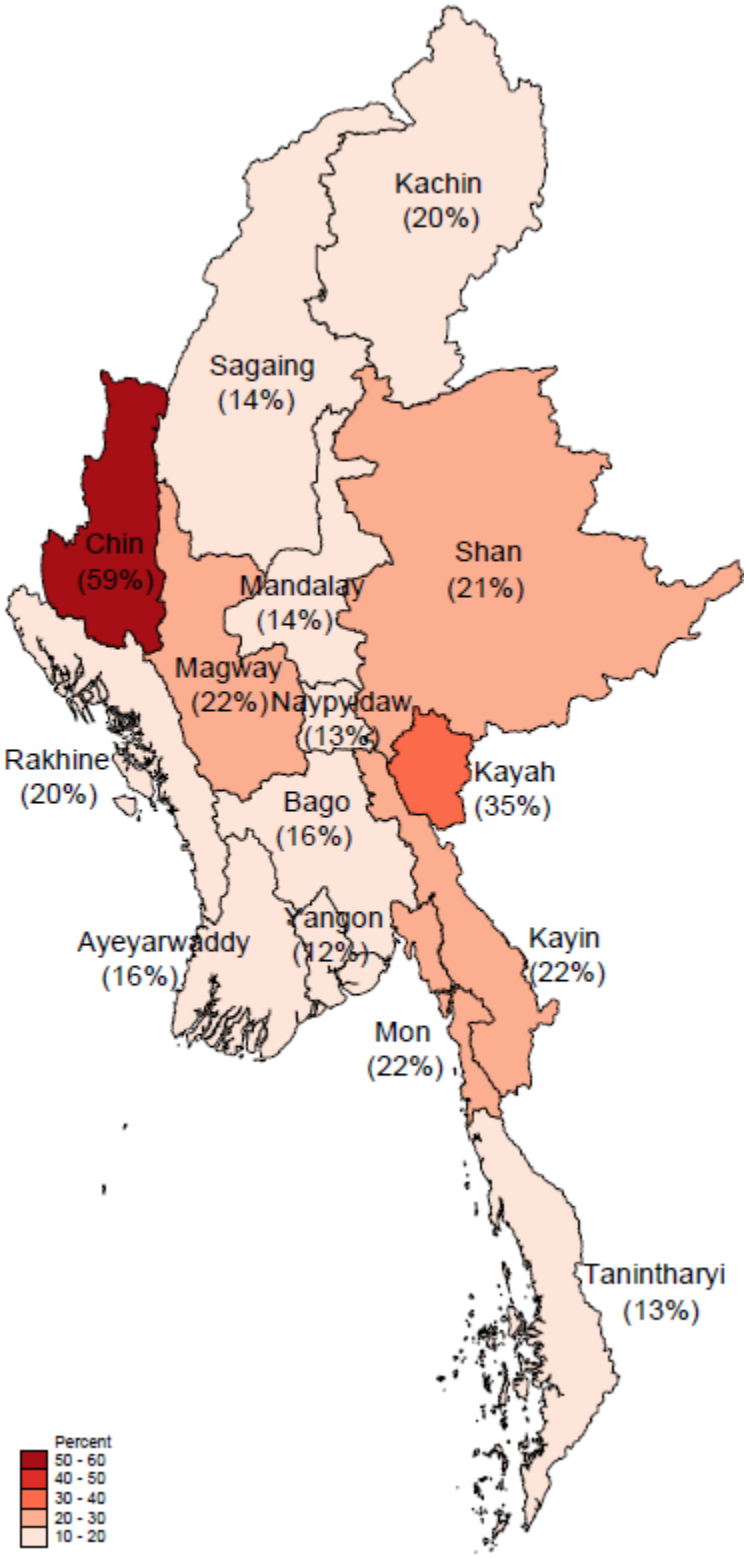
Table 6. Composite categories of HHS and 7-day recall questions, percentage of households

	National R1	National R2	Rural R2	Urban R2
Household Hunger Scale				
Little to no hunger (%)	95.6	96.0	96.0	95.9
Moderate hunger (%)	4.2	3.7	3.6	4.0
Severe hunger (%)	0.2	0.3	0.3	0.1
There was no food of any kind the house (%)	11.6	9.7***	10.1**	8.5
No (%)	88.5	90.3***	89.9**	91.5
Rarely (1-2 times) (%)	5.6	3.8***	4.1**	3.0
Sometimes (3-10 times) (%)	5.5	4.8***	5.0	4.5
Often (more than 10 times) (%)	0.4	1.1***	1.1	1.0
A household member went to sleep hungry (%)	4.9	3.8***	3.6	4.1
No (%)	95.1	96.3***	96.4	95.9
Rarely (1-2 times) (%)	2.3	1.5***	1.5	1.3
Sometimes (3-10 times) (%)	2.5	2.1*	1.9*	2.5
Often (more than 10 times) (%)	0.2	0.2	0.2	0.2
A household member went a full day and night without food (%)	2.1	1.6**	1.7	1.5
No (%)	97.9	98.4**	98.3	98.5
Rarely (1-2 times) (%)	1.0	0.9	0.9	0.9
Sometimes (3-10 times) (%)	1.1	0.7***	0.7	0.5
Often (more than 10 times) (%)	0.1	0.1	0.1	0.0
Number of observations	*12010*	*12132*	*8421*	*3711*

Note: Asterisks on Rural R2 show statistically significant differences between rural and urban observations. Asterisks on National R2 show differences between R2 and R1 households; * p < 0.10, ** p < 0.05, *** p < 0.01.

Figure 4 shows a regional overview of food insecure households. States/regions were considered food insecure if they either had inadequate food intake (based on FCS categories), experienced moderate or severe hunger (based on HHS categories), or both. Details can be found in Table A.9. Again, Chin and Kayah State have the highest share of households who are food insecure, 58.0 and 36.1 percent, respectively. This is much higher than the prevalence of food insecurity in other States and Regions (13.6 to 35.5 percent). Yangon region, which has the largest urban population in the country, continues to have the lowest share of households who are food insecure (12.4), though it is significantly higher than the 5.1 percent of food insecure households in last round.

Figure 4. Share of households who are food insecure from the perspective of inadequate food consumption or experience of hunger, by State or Region



4. VULNERABILITY ASSESSMENT

In this section, we explore how shocks and household characteristics are associated with vulnerability. More specifically, we explore how climatic and security shocks impact whether households are economically affected, the number of copying strategies they use, their household food consumption score, and their household hunger score (Table 7). In our analysis we control for principal household income source and other household and respondent characteristics.

In column 1 of Table 7 we present marginal effects from a random effects probit regression of shocks on the probability of being economically affected. Again, households are defined as economically affected if they have experienced a large or a small reduction in income or if they had no income at all in the past three months. In column 2 of Table 7 we present estimates from a random effects Tobit regression of shocks on the number of copying strategies. The number of coping strategies ranges from 0 to 13 and includes all the strategies listed in Table 4. In columns 3 and 4 we present estimates from random effects regressions on FCS and the house hunger score. The FCS ranges from 12.5 to 112, with a lower score indicating poorer food consumption. The household hunger score ranges from 0 to 6, with 0 indicating no hunger, and a higher score indicating increasing hunger.

Respondents experiencing climate shocks more often report income losses, use more coping mechanisms, and are more likely to experience hunger. Climatic shocks did not have a significant impact on the food consumption score. Self-reported community insecurity is also significantly associated with income losses, using more coping mechanisms, greater food insecurity, and more hunger. Compared with climatic shocks, the coefficients for insecurity are larger in magnitude for income loss and food consumption but are smaller for number of coping strategies and hunger.

When we look at the relationship between household characteristics with the outcome variables, we can see that households' income generating activities have a significant impact on vulnerability. Households engaged in farm activities are less likely to experience a drop in income, are more likely to have higher food consumption scores as well as lower household hunger scores. At the same time, however, farming households use more coping strategies. Non-farm enterprise owners are an interesting case, as they are more likely to experience losses in income, but at the same time, are resilient in the other outcome categories. Both farm and non-farm wage workers are more likely to experience a drop in income, use a copying strategy, have a lower food consumption score, and a higher household hunger score. Salaried workers, seem to be the most resilient, they are less likely to experience a drop in income, use fewer coping strategies, have higher food consumption scores, and lower household hunger scores. Remittances also helped households be more resilient and have positive impacts on every outcome variable.

Compared to households that are asset rich, households that are asset low or poor employ more coping strategies, have worse FCSs, and are more likely to be hungry. Respondents with lower education levels were more vulnerable across all outcomes. Women adult only households differ from other households only in their association with worse food consumption scores. Households with young children and larger households report somewhat better food consumption scores but still suffer from more hunger and are more likely to apply coping strategies. Women

are more likely to report a reduction in income, more copying strategies, more hunger, but at the same time, a higher FCS.

Finally, we find significant differences among households in rural areas compared to households in urban areas. Rural areas are associated with lower levels of economic vulnerability, yet also with higher levels of food insecurity. We also find significant differences across several states and regions for all outcome variables. All else equal, households in Kayah were more likely to be worse off in all indicators.

Table 7. Exploratory regression analysis of characteristics associated with economic status, coping and food consumption

	Economically Affected[1]	# Coping Strategies[2]	Food Consumption Score[3]	Household Hunger Score[4]
Climatic shock	0.062***	0.757***	-0.011	0.088***
Community insecurity	0.101***	0.725***	-0.655***	0.081***
Farm	-0.051***	0.212***	2.342***	-0.120***
Non-farm enterprise	0.038***	-0.072**	2.663***	-0.037***
Farm wage	0.037***	0.566***	-2.352***	0.051***
Non-farm wage	0.033***	0.383***	-1.196***	0.059***
Salary	-0.136***	-0.227***	1.417***	-0.040***
Remittances	-0.056***	-0.140***	2.571***	-0.032***
Unemployed	0.331***	0.329**	-2.594**	0.038
Asset poor vs asset rich	0.028***	0.948***	-9.508***	0.213***
Asset low vs asset rich	0.001	0.576***	-5.457***	0.064***
Low education	0.024***	0.149***	-2.193***	0.061***
Women adults only	-0.002	-0.09	-0.924*	-0.001
Young children in household	0.001	0.271***	1.381***	0.038***
Household size (AE)	0.013***	0.078***	0.127**	0.012***
Female respondent	0.014**	0.344***	1.242***	0.023***
Jan vs Dec	-0.005	-0.034	-0.025	0.005
Feb vs Dec	0.016	0.077	-1.122*	0.02
April vs Dec	-0.113***	-0.998***	-7.461***	-0.043***
May vs Dec	-0.101***	-0.973***	-6.549***	-0.019*
June vs Dec	-0.054***	-0.213***	-7.794***	0.027**
Rural vs urban	-0.042***	-0.102**	-2.212***	-0.029***
Kachin vs Ayeyawady	0.053**	0.135	-0.612	-0.029
Kayah vs Ayeyawady	0.151***	0.726***	-9.942***	0.082**
Kayin vs Ayeyawady	0.041*	-0.323***	0.472	0.057**
Chin vs Ayeyawady	0.113***	-0.001	-9.141***	0.044

Sagaing vs Ayeyawady	0.038***	0.029	2.312***	-0.071***
Tanintharyi vs Ayeyawady	0.002	0.271***	1.764**	0.146***
Bago vs Ayeyawady	0.026*	0.112*	-0.137	0.02
Magway vs Ayeyawady	0.036**	-0.158**	-0.066	-0.005
Mandalay vs Ayeyawady	0.022	-0.163**	-0.496	-0.02
Mon vs Ayeyawady	0.011	-0.109	-0.376	0.02
Rakhine vs Ayeyawady	0.001	0.467***	0.278	0.004
Yangon vs Ayeyawady	0.086***	0.092	-0.093	0.004
Shan vs Ayeyawady	0.013	-0.049	-3.177***	-0.008
Naypyitaw vs Ayeyawady	-0.007	-0.085	0.84	0.043*
Constant	0.553***	2.097***	66.346***	0.024
Number of Observations	*23998*	*24241*	*24241*	*24241*

[1] Probit regression model [2] Tobit regression model; [3] Ordinary least squared (OLS) analysis;
Note: Asterisks show coefficients significant at p-values * p < 0.10, ** p < 0.05, *** p < 0.01 The dependent variable in column 1 is economically affected. Households are defined as economically affected if they have experienced a large or a small reduction in income or if they had no income at all in the past three months. In column 2 the dependent variable is the number of coping strategies. We add up all the coping strategies presented in Table 4. In columns 3 the dependent variable is the FCS; a lower score indicates poorer food consumption. In column 4 the dependent variable is the house hunger score; a higher score indicates increasing hunger.

5. DISCUSSION AND CONCLUSION

The MHWS survey data for the period of January to June of 2022 reveals a worsening food and nutrition situation in Myanmar. All else equal, R2 households had a food consumption score that was 7.1 points lower than R1 households (September 2021 to January 2022). Shocks continue to threaten the livelihoods of Myanmar's households. We find that more households reported security and climatic shocks in the second round of MHWS compared with the first. There was an increase in reported crime, violence, and insecurity in Kayah, Sagaing, and Magway States. Further, more than half of households in Chin and nearly half of households in Kachin reported feeling insecure in their communities. Overall, 0.71 percent of households were also affected by violence against a household member while the figure was 10.1 percent in Chin State. Additionally, fifty-five percent of households reported a lower income in the beginning of 2022 compared to 12 months earlier but, fewer respondents reported lower incomes this round compared with R1, especially for those employed in the non-farm sector.

Eighty-three percent of households employed at least one coping strategy to meet daily needs during the month prior to the survey. At the same time, fewer households had to employ a coping strategy compared to last period. The three most common coping strategies were reducing non-food expenditure, spending savings, and reducing food expenditure. The combination of higher food prices and reduced food expenditure impacted food consumption. Seventeen percent of households had poor or borderline food consumption, more than in the last period. Further, 4.0 percent of households were impacted by moderate or severe hunger. Finally, regression analysis revealed that climatic shocks and conflict are strongly correlated with income losses, the use of coping strategies, and hunger.

Household vulnerability is worrisome, especially if food prices continue to rise. The situation in Kayah and Chin state is particularly alarming especially in terms of food consumption and hunger. Further, Myanmar's households may be more vulnerable than described in this report, especially for states like Kayah and Chin that are more conflict-affected than other states and regions. Since internally displaced persons or other households in particularly precarious situations have limited access to phones, it is likely that they are under-sampled. Finally, although workers in the non-farm sector appear to be doing better than in R1, this may be short lived, given the worsening political and economic situation and the possibility of another COVID wave.

REFERENCES

Ballard, T., Coates, J., Swindale, A., and Deitchler, M. (2011). Household Hunger Scale: Indicator Definition and Measurement Guide. Washington, DC: Food and Nutrition Technical Assistance II Project, FHI 360.

MAPSA (2022a). Phone surveillance, from scratch: Novel sample design features of the nationally representative Myanmar Household Welfare Survey (MHWS). Myanmar SSP Working Paper 16. Washington, DC. International Food Policy Research Institute (IFPRI).

MAPSA (2022b). Myanmar Household welfare survey Round 2 sample report. Washington, DC. International Food Policy Research Institute (IFPRI).

Raleigh, C., Linke, A., Hegre, H., & Karlsen, J. (2010). “Introducing ACLED: An armed conflict location and event dataset: Special data feature”. Journal of Peace Research, 47(5), 651-660. https://doi.org/10.1177/0022343310378914

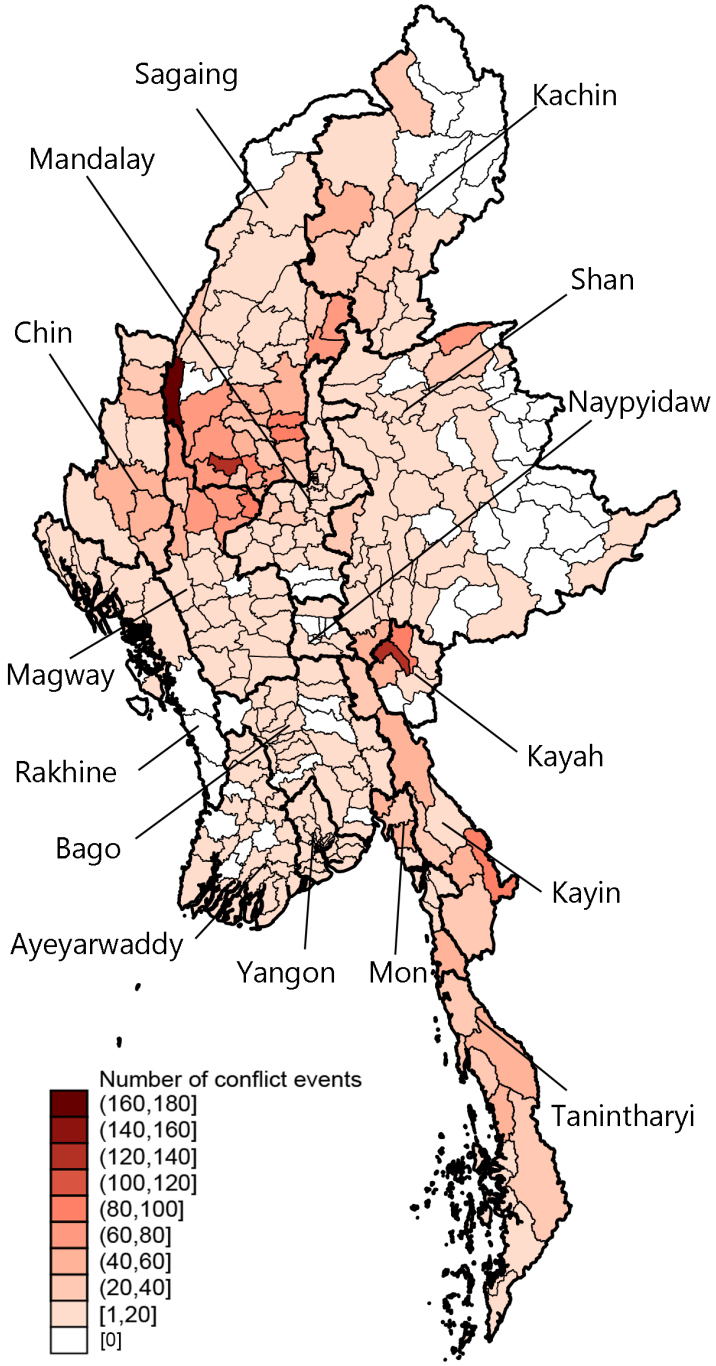
Robertson, B., P. Young, J. Kristensen, K. Mar Cho, H. Myo Thwe, M. Pannchi, and T. Chin Sung (2018). Strategic Review of Food and Nutrition Security in Myanmar: In support of Sustainable Development Goal (SDG) 2 - Roadmap to 2030. Yangon, Myanmar: Myanmar Institute for Integrated Development (MIID).

World Food Programme (2018). Calculation and use of the food consumption score in food security analysis. WFP VAM. Rome.

World Health Programme (2022). WHO Health Emergency Dashboard, COVID 19 Myanmar. Found at https://covid19.who.int/region/searo/country/mm

APPENDIX FIGURES

Figure A.1 Violent events from January-June 2022, by township[2]



[2] We rely on the Armed Conflict Location & Event Data Project (ACLED) dataset and include the sum of all battles, explosions, and violence. www.acleddata.com."

APPENDIX TABLES

Table A.1 Experience of community insecurity in the past three months, by State or Region in percentage of households

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Feels physically insecure	45.61	55.26	28.28	53.69	33.90	17.91	11.09	17.07	16.05	14.56	18.12	24.95	17.23	9.39	8.63
Low levels of social trust in community	22.29	39.16	28.97	42.76	21.34	23.53	13.26	18.67	19.11	17.89	17.76	27.40	18.65	15.56	14.70
Increase in crime in community	27.64	17.49	8.48	15.12	11.25	4.59	3.10	4.62	7.97	5.50	5.92	16.85	6.40	5.57	4.53
Violence in community	13.58	14.97	4.59	27.34	15.13	7.75	2.91	4.32	6.15	5.14	3.43	11.93	5.16	2.88	0.05
Negatively affected by any natural or climatic shock	10.01	10.90	12.61	22.16	16.26	10.24	11.06	10.91	13.59	12.70	16.50	5.32	10.66	15.37	14.48
Drought	0.59	4.02	0.81	5.59	1.14	0.00	0.50	1.00	0.39	0.00	0.32	0.11	1.45	0.21	0.00
Excessive rainfall	6.64	2.92	5.05	14.71	7.92	7.42	5.45	3.24	5.37	3.87	5.54	1.99	5.79	6.82	2.97
Irregular rainfall or temperature	0.19	3.96	2.99	2.72	2.28	1.10	1.60	2.13	1.33	1.45	4.08	1.69	1.98	3.92	0.00
Strong wind	2.95	2.22	6.75	5.92	7.97	5.81	5.67	6.12	8.24	9.35	9.80	2.08	4.14	7.78	14.43
Observations	*396*	*127*	*355*	*160*	*1308*	*333*	*1168*	*959*	*1481*	*480*	*532*	*1845*	*1165*	*1540*	*293*

Table A.2 Experience of household insecurity in the past three months, by State or Region in percentage of households

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
HH affected by violence against HH member in the past 3 months (%)	0.3	1.9	1.2	9.8	1.3	1.2	0.3	0.5	0.4	0.7	0.6	0.6	0.6	0.2	0.0
HH affected by destruction/damage of assets/property in the past 3 (%)	0.2	10.0	0.6	13.3	1.8	1.2	0.4	0.4	0.6	0.4	1.2	0.6	0.6	0.1	0.0
HH affected by appropriation of assets or property in the past 3 months (%)	0.1	2.3	0.4	13.6	1.0	0.5	0.2	0.1	0.3	0.4	0.7	0.5	0.1	0.4	0.0
HH affected by bribery or forced payments in the past 3 months (%)	1.2	0.0	1.8	0.0	0.9	1.0	0.5	0.0	0.3	0.1	1.4	0.2	0.6	0.6	0.0
HH affected by theft in the past 3 months (%)	7.6	12.8	3.8	10.3	2.9	1.8	1.7	1.2	2.7	2.2	2.6	4.0	2.2	2.4	3.1
HH affected by detention of household members in the past (%)	0.0	0.0	0.9	0.3	0.3	0.7	0.2	0.3	0.1	0.0	0.2	0.1	0.1	0.1	0.0
HH affected by robbery in the past 3 months (%)	1.5	0.0	0.9	2.8	0.3	0.0	0.2	0.2	1.2	0.5	0.1	2.4	0.5	0.4	0.9
Observations	*396*	*127*	*355*	*160*	*1308*	*333*	*1168*	*959*	*1481*	*480*	*532*	*1845*	*1165*	*1540*	*293*

Table A.3 Economically affected, by State or Region in percentage of households

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Large income change (%)	43.3	56.4	45.8	44.3	45.2	30.7	37.0	41.8	38.1	34.2	36.1	36.8	38.7	32.2	35.2
Small income change (%)	20.6	17.9	18.3	20.2	14.3	15.9	17.0	14.8	15.4	18.7	19.2	20.9	16.3	19.5	7.8
No income or only assistance (%)	1.8	0.4	1.3	2.0	1.0	0.8	0.0	1.2	0.4	0.2	0.1	0.6	0.2	0.1	2.1
Economically affected (sum) (%)	64.9	74.4	64.1	64.5	59.9	47.1	54.0	57.1	53.6	53.1	55.3	58.0	54.9	51.7	43.2
Regular or increased income (%)	35.7	25.6	35.9	34.7	39.9	53.3	45.7	43.0	45.8	46.8	44.6	42.2	44.9	48.1	56.3
Number of observations	*396*	*127*	*355*	*160*	*1308*	*333*	*1168*	*959*	*1481*	*480*	*532*	*1845*	*1165*	*1540*	*293*

Table A.4 Most important challenges for wage incomes or salary

Most important challenges for wage incomes or salary	National R1	National R2	Rural R2	Urban R2
Reduced working hours / less work (%)	43.4	21.8***	23.9	17.9
Low/reduced wages (%)	20.9	10.8***	9.2	13.7
Not safe to travel to work location (%)	14.5	7.4***	5.9	10.3
Not able to reach work location (%)	8.7	1.2***	1.1	1.3
Not safe at work location (%)	5.3	1.8***	2.0	1.3
Unable to work due to health problems of worker or other household members (%)	18.9	3.1***	3.8	1.9
More working hours (%)	0.1	0.0***	0.0	0.0
Being discriminated at workplace (%)	0.1	0.0**	0.0	0.0
Late wage payment (%)	0.1	0.0**	0.0	0.0
Others (%)	0.2	0.4*	0.3	0.7
Number of Observations	*4075*	*4240*	*2541*	*1699*

Table A.5 Most important challenges for crop production

	National R1	National R2	Rural R2	Urban R2
Unable to acquire enough inputs or mechanization services (availability) (%)	3.4	2.5*	2.6	1.8
High prices of inputs or mechanization services (%)	34.0	28.8***	29.0	23.6
High prices of fuel (%)	4.0	5.3***	5.4	2.8
Disruption to banking services, access to cash, or loan (%)	1.8	2.1	2.2	0.6
I cannot reach my own farm (%)	1.6	0.9**	0.8	3.7
Water / irrigation supply problems (%)	5.0	4.4	4.4	4.2
Weather problems (%)	20.3	14.4***	14.4	13.7
Pest and disease problems (%)	10.9	9.0**	9.2	4.9
Difficulties hiring workers (%)	3.4	3.6	3.4	6.1
Number of observations	*3569*	*3292*	*3066*	*226*

Table A.6 Most important challenges for farm or non-farm enterprises

	National R1	National R2	Rural R2	Urban R2
Unable to acquire enough raw materials / supplies (availability) (%)	4.9	5.5	5.7	5.4
High prices of raw materials or supplies (%)	17.4	14.0	12.9	15.5
High prices of fuel / high transport costs (%)	7.8	10.8	11.4	10.0
Disruption to banking services, access to cash or loans (%)	3.9	4.3	4.9	3.4
Customers cannot reach my business, or I cannot reach customers (%)	16.0	6.1	6.8	5.2
Electricity / energy supply problems (%)	1.5	2.5	1.7	3.6
Fewer / no customers interested in buying products (%)	21.3	15.9	12.8	20.1
Difficulties hiring workers (%)	1.0	0.8	0.6	1.1
Consumer debt (%)	0.4	0.4	0.6	0.2
Reduce operation hours (%)	0.1	0.0	0.1	0.0
Difficult to find a place to operate (%)	0.0	0.1	0.1	0.1

Security concern (%)	0.0	0.0	0.0	0.1
Number of Observations	*3373*	*3330*	*1821*	*1509*

Table A.7 Reduced food expenditure, by food group

Reduced food expenditure and food groups	National R2	Rural R2	Urban R2	R2 rural/ urban test
Staple grains, roots, and tubers (%)	29.8	27.9	35.2	***
Beans and nuts (%)	26.6	26.2	27.9	
Vegetables (%)	21.4	20.4	24.1	**
Fruits (%)	26.7	25.6	29.7	***
Meats 9%)	84.6	86.4	79.8	***
Eggs (%)	38.5	39.3	36.3	*
Fish (%)	74.2	75.9	69.8	***
Dairy (%)	31.7	29.8	36.8	***
Sugary products (%)	38.5	36.4	44.2	***
Oils, fats and butter (%)	72.9	74.3	69.1	***
Condiments (%)	44.1	43.8	45.0	
Restaurant meals, takeaway meals (%)	47.8	42.5	62.4	***
Number of observations	*5387*	*3773*	*1614*	

Table A.8 Summary of coping strategies employed, by State or Region in percentage of households

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Uses min. 1 coping mechanism (%)	70.4	76.2	55.6	54.8	58.8	60.5	56.8	50.9	49.4	52.1	64.6	53.9	56.8	55.7	50.0
# coping mechanisms used	65.9	75.9	55.9	57.1	58.1	62.8	54.0	48.4	45.6	51.7	66.2	53.5	53.2	58.2	41.8
Reduced non-food expense (%)	43.6	51.4	33.7	43.6	38.7	44.0	38.0	26.6	25.0	30.8	47.7	32.9	34.7	35.8	25.7
Reduced food expense (%)	74.1	88.0	71.5	71.5	71.7	72.4	66.8	64.3	65.4	64.4	78.1	65.3	70.6	63.0	66.6
Reduced expense on health (%)	42.9	51.1	40.2	43.3	35.3	37.7	38.4	34.7	33.5	33.9	52.9	29.8	35.2	43.3	25.1
Spent saving (%)	38.9	29.8	36.3	40.1	34.7	37.9	37.2	32.5	27.1	30.9	49.7	22.1	29.2	39.4	19.9
Borrowed money (%)	12.3	6.1	12.6	1.2	10.9	14.8	25.6	22.3	16.4	14.9	35.9	20.0	10.2	28.4	25.5
Purchased food credit or borrow (%)	12.5	20.1	12.9	4.0	12.9	20.8	12.2	13.8	15.8	18.1	22.7	18.1	15.9	11.5	10.9
Mortgaged household assets / goods (radio, furniture, television, jewelry, etc.) (%)	0.6	0.0	0.2	0.0	0.5	1.2	1.6	1.2	0.8	0.8	0.0	0.5	0.7	1.0	0.3
Sold household assets / goods (radio, furniture, television, jewelry, etc.) (%)	5.4	5.7	5.9	1.3	3.5	4.2	3.4	3.3	4.0	4.0	1.6	2.6	2.7	3.4	1.9
Mortgaged non-agri productive assets or means of transport (sewing machine, wheelbarrow, bicycle, car, etc.) (%)	9.3	9.1	4.4	10.9	4.2	5.9	2.7	2.5	3.0	3.1	4.0	2.5	3.2	4.5	0.5
Sold non-agri productive assets or means of transport (sewing machine, wheelbarrow, bicycle, car, etc.) (%)	7.8	22.5	3.9	17.4	13.1	5.3	7.2	7.3	5.1	6.7	4.4	3.6	8.5	9.7	5.0
Engaged in high risk activities (%)	1.3	9.9	1.3	7.9	2.0	2.0	1.3	1.4	1.1	0.6	0.9	1.8	1.1	1.2	0.0
Children need to work (under 15) (%)	0.7	9.2	1.0	6.4	1.2	2.3	1.6	1.0	1.0	1.5	0.7	0.9	0.8	1.5	0.1
Migrate entire HH (%)	0.2	4.9	2.7	7.3	2.0	2.8	1.6	0.4	0.9	1.5	0.7	0.7	0.8	0.9	1.7
Mortgaged house (%)	0.0	0.0	1.1	0.4	0.5	0.7	0.2	0.7	0.2	0.0	0.2	0.1	0.3	0.2	0.0
Sold house (%)	0.0	0.0	0.5	0.1	0.3	0.6	0.8	0.2	0.0	0.5	0.1	0.1	0.2	0.3	0.0
Mortgaged land (%)	0.0	0.0	0.3	0.0	0.2	0.0	0.5	0.3	0.8	0.6	0.0	2.5	0.0	1.4	0.0
Sold land (%)	2.5	0.0	0.0	0.0	2.2	1.2	1.5	0.9	0.6	1.4	1.2	1.4	0.9	2.7	0.2
Mortgaged others (%)	31.3	89.8	29.5	36.2	58.0	58.2	46.5	59.1	47.9	44.8	69.1	49.6	59.8	49.5	30.7
Sold others (%)	14.2	35.8	13.7	56.9	30.8	21.3	25.4	25.4	18.1	11.3	12.0	25.6	23.3	19.4	3.2
Reduced agri-input expense (ag HH only) (%)	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Sold or consumed seed stocks (ag HH only) (%)	70.4	76.2	55.6	54.8	58.8	60.5	56.8	50.9	49.4	52.1	64.6	53.9	56.8	55.7	50.0

Mortgaged agri productive assets (ag HH only) (%)	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Sold agri productive assets (ag HH only) (%)	3.3	5.6	1.5	3.5	2.9	0.1	1.2	1.7	2.2	0.7	0.3	0.1	1.4	1.1	1.9
Number of observations	*396*	*127*	*355*	*160*	*1308*	*333*	*1168*	*959*	*1481*	*480*	*532*	*1845*	*1165*	*1540*	*293*

[1] These include crops, phones, hair, clothes and other utensils; [2]Farm households only

Table A.9 Food consumption, by State or Region in percentage of households

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Food consumption score	53.2	44.1	51.7	42.9	55.7	55.6	53.3	51.5	55.9	52.3	53.2	56.9	51.7	52.2	55.8
Poor food consumption (%)	0.8	12.0	2.8	14.4	1.0	0.8	0.9	3.0	0.4	1.2	0.6	0.7	1.1	0.6	1.1
Borderline food consumption (%)	19.5	24.1	19.2	43.6	12.9	11.6	15.1	19.4	13.3	20.2	18.4	11.6	19.9	15.1	11.4
Acceptable food consumption (%)	79.7	63.9	78.0	42.0	86.0	87.6	84.1	77.6	86.2	78.6	81.0	87.7	79.0	84.3	87.6
HH hunger score	0.19	0.36	0.27	0.40	0.11	0.38	0.19	0.16	0.11	0.19	0.18	0.13	0.14	0.19	0.15
Little or no hunger (%)	97.1	89.0	94.9	90.2	97.6	90.0	95.2	95.8	97.3	94.5	96.1	96.8	96.5	95.3	96.0
Moderately Hunger (%)	2.9	11.0	3.3	9.8	2.1	9.4	4.4	3.9	2.6	5.5	3.7	3.0	3.3	4.6	3.6
Severe hunger (%)	0.0	0.0	1.9	0.0	0.3	0.6	0.5	0.2	0.1	0.0	0.3	0.1	0.2	0.1	0.5
Food insecure (poor, borderline food consumption or hunger) (%)	20.3	36.1	22.0	58.0	14.1	12.5	16.2	22.5	13.8	21.4	19.3	12.4	21.0	15.7	12.9
Number of observations	*396*	*127*	*355*	*160*	*1308*	*333*	*1168*	*959*	*1481*	*480*	*532*	*1845*	*1165*	*1540*	*293*

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