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Vulnerability and Welfare

Findings from the fourth round of the Myanmar Household Welfare Survey (October to December 2022)







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ABSTRACT

The fourth round of the Myanmar Household Welfare Survey (MHWS), a nationally and regionally representative phone survey, was implemented between October and December 2022. It follows from three rounds that were carried out quarterly beginning in December 2021. This report discusses the findings from the fourth round related to shocks, coping strategies, and income poverty.

The security situation in Myanmar continued to deteriorate during the fourth-round recall period. Increasingly, households felt insecure in their communities, as reported by 22 percent of rural households and 27 percent of urban households, an increase compared to the previous rounds. This is because crime and violence continued to increase, affecting 12 and 8 percent of communities, respectively. Further, 8 percent of households were directly affected, either through violence against a household member, robbery, or appropriation and/or destruction of their assets.

Households faced multiple disruptions besides insecurity. Disruptions in banking, internet, and electricity also negatively affected household wellbeing and livelihoods. Further, households struggled to receive medical services. Finally, while school attendance recovered, it was still under 70 percent in some states/regions.

Eighty-four percent of households used at least one coping strategy to meet daily needs during the month prior to the fourth-round survey. The three most common coping strategies used were spending savings, reducing non-food expenditure, and reducing food expenditure. This has been consistent across rounds. Further, some households exhausted some or all of their coping strategies. Remittances were the only factor inversely associated with households' probability of having lower income compared to last year, being income poor, and using coping strategies.

In R4 income-based poverty increased by 30 percent compared to R1 (15 percentage points) and 7 percent compared to R3 (4 percentage points). Sixty-six percent of the population was income poor. The rise in income poverty between R3 and R4 was largely attributable to changes in urban poverty. Casual wage-earning households, both farm and non-farm, had the highest levels of income poverty. Compared to the other states/regions, households in Kayah, Chin, and Sagaing were the most vulnerable. They were more likely to be impacted by conflict, have income loss, and be income poor. Despite reporting comparatively less conflict, households in Rakhine were also vulnerable; nearly 80 percent of households in Rakhine were income poor and many were mortgaging/selling assets to cope.

1. INTRODUCTION

In July through December of 2022, households continued to be impacted by security, climatic, and economic shocks. Fighting was ongoing in the states/regions of Kayah, Chin, Sagaing, Kachin, Kayin, Mon, eastern Bago, and Magway (OCHA 2022). Sporadic conflict continued in Northern Shan and Tanintharyi. Conflict intensified in Kayah state and Sagaing region in the final quarter of the year. In Rakhine, conflict slowed due to a tenuous informal peace agreement (Ibid 2022). The survey was conducted at the end of the monsoon season, which stretches from May to October in the largest part of Myanmar and is the most important agricultural season for most farmers. Households' agricultural production was impacted by drought and flooding. Households continued to be affected by economic shocks including high fuel and food prices. Disruptions in the banking, internet, electricity, health, and education sectors were also detrimental to household welfare. All these factors continued to reduce household incomes.

This paper provides an overview of the vulnerability and welfare of households across Myanmar for the fourth round (R4) of the Myanmar Household Welfare Survey (MHWS). MHWS is a representative phone survey at the national, urban/rural, and state/region levels. The fourth round of this survey was conducted between October and December 2022.¹ In this paper, we examine the security, climatic, health, service, and economic shocks that Myanmar households face. Second, we study the coping strategies households employ to meet their daily needs. Third, we analyze changes in income poverty for Myanmar's households. Finally, we explore the association of shocks and household characteristics with income loss and income poverty.

The paper is organized as follows: Section two describes the data and methodology. Section three shows descriptive results, including shocks experienced, changes in income, coping strategies that households employ, and income poverty patterns. Section four explores characteristics associated with income changes and coping. Section five concludes.

2. DATA AND METHODOLOGY

The analysis presented in this paper relies on data from the fourth round of the MHWS. The fourth round of MHWS was collected through phone survey interviews between October and December 2022 and has 12,128 respondents. Because most questions were asked for a three-month recall period, the data cover the time spanning from July to December. 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 analysis is mainly descriptive and employs straightforward indicators, although the construction of indicators related to shocks and poverty requires more detail. 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 (ACLED, 2022). In the MHWS, respondents were

¹ This was two months after the third round (R3) of data collection in July and August 2022. The second round (R2) was in April and June 2022 and the first round (R1) was conducted between December 2021 and February 2022.

asked about different shocks that their households or their communities experienced in the past three months. Depending on the date the household was interviewed, the past three months includes July-October 2022, August-November 2022, or September-December 2022.² Because of the difficulty in surveying conflict affected areas, it is likely that these MHWS estimates of shocks underrepresent the extent of insecurity in the country. The ACLED indicator is based on the sum of all battles, explosions, and violence reported in the ACLED dataset in the three months prior to the interview.

The poverty line is the minimum welfare level for an individual not to be considered deprived. In previous in-person nationally representative surveys (the Myanmar Poverty and Living Conditions Survey (MPLCS) of 2014-15 and the Myanmar Living Conditions Survey (MLCS) of 2017), the share of poor was calculated using a consumption expenditure aggregate. Unfortunately, in a phone survey, collecting detailed expenditure information is not feasible. Therefore, we use an income-based poverty measure to determine the number of households that fall below the poverty line. Our income-based poverty measure is a comparison of total household income with the national poverty line. Total household income is the sum of income from 15 different economic activities plus net remittances received in the past month. It is adjusted for household size using standard adult equivalency scales. Separately, the national food poverty line from the first guarter of 2017 – which was 1,037 kyat (MoPF et al., 2019) – was updated first with the official food CPI until mid-2020, and then with a temporal MAPSA food price index from a national survey of food vendors (MAPSA, 2022c). Then, a spatial deflator was applied to adjust food prices for rural and urban areas within each state/region based on price information from the MAPSA food vendor survey. The nonfood poverty line is calculated using the ratio of the food to the nonfood poverty lines in 2017 and the total poverty lines are the sum of the food and nonfood poverty lines. The income-based poverty measure is found to be highly correlated with the MLCS 2017 consumption -based poverty measure at the state/region level (MAPSA, 2022c).

We compare our different indicators of vulnerability and welfare by the households' main source of income and asset class. We divide households into five groups by their main source of income: non-farm business, non-farm salary, non-farm wage, farm wage/salary, and own farming. Households were categorized into three asset-class groups based on the number of assets they own: asset-poor (0-3 assets), asset-low (4-6 assets) and asset-rich (7-10 assets). This categorization is based on a count of 10 assets including: improved housing (semi-pucca, bungalow/brick, apartment/condominium), flush toilet, improved water source (piped into house or bottled water), grid-based electricity (not solar), rice cooker, fridge, TV, wardrobe, car/motorcycle/tuk-tuk, and a working computer/laptop/iPad.

Finally, we employ regression analysis to identify factors associated with household experience of income loss and income poverty, as well as the use of different coping strategies. First, we use random effects panel probit regression to estimate the association between specific types of shock and the likelihood of being economically affected and/or income poor. Second, we employ the same method to estimate the impact of shocks on coping strategies. We include three

² R1 was conducted in December 2021 to February 2022, so shock data is reported for September-November for interviews conducted in December 2021, October-December for interviews in January 2022, and November-January for interviews in February 2022. R2 was collected from April-June 2022. For R2, shock data ranges from January-March for interviews conducted in April, February-April for interviews in May, and March-May for interviews conducted in June. Finally, R3 was conducted in July-August, and shock data is for April-June for interviews conducted in July, and May-July for interviews conducted in August.

types of shock in our analysis: security, climatic, and health shocks. The security shock indicator is a self-reported measure of community insecurity for the three months prior to the survey round. Climatic shock is a self-reported measure of any climatic shock the household experienced during the three months prior to the survey round. We define health shocks as a household who has a member who passed away from disease during the three months prior to the survey round. In our analysis, we control for the main household income source, other sources of income, asset poverty, and other household and respondent characteristics. State/region dummies and round dummies are also included in the models. It is important to note that our estimates are only associations between our independent and dependent variables.

3.MAIN FINDINGS

3.1 Shocks

3.1.1 Security shocks

In July through December 2022, 23.1 percent of households in Myanmar felt that their community was very or somewhat insecure (Table 1). The number of households who feel insecure has increased steadily since R1, in which 18.6 percent of households felt unsafe in their community. Crime and violence have also been increasing since R1. In R4, 11.7 percent of households reported that crime increased in their communities (Table 1). This is an increase from 7.7 percent in R1, 8.7 percent in R2, and 9.6 percent in R3. Further, in R4 8.4 percent of households reported that violence occurred in their communities, which is higher than in all other rounds.

Community	R1	R2	R3	R4	Rural	Urban
Feels insecure	18.6	19.6	22.1	23.1*	21.6	27.1***
Low levels of social trust	19.7	20.0	22.1	22.2	20.4	26.6***
Increase in crime	7.7	8.7	9.6	11.7***	8.1	20.8***
Violence	6.3	7.0	7.6	8.4**	6.6	13.1***
Observations	12100	12142	12128	12924	9223	3701

Table 1. Percent of households experiencing security shocks in their community over the past three months

Note: asterisks denote difference from the previous MHWS round, as well as the difference between rural and urban locals. Asterisks show significance at p-values * p < 0.10, ** p < 0.05, *** p < 0.01.

Source: Author's calculations based on MHWS data.

A larger percentage of urban households (27.1 percent in R4) felt that their community was insecure compared to rural households (21.6 percent in R4) (Figure 1). In addition to feeling insecure, more urban households felt a low level of trust in their communities compared to rural households, 26.6 percent of urban households and 20.4 percent of rural households (Table 1). Between R3 and R4 the number of urban households reporting crime in their community jumped from 16.5 percent in R3 to 20.8 percent in R4. Violence also increased in urban

communities, from 10.5 percent in R3 to 13.1 percent in R4. In rural communities, there was a small increase in reported crime, but no increase in reported violence.





The three states/regions where households felt the most insecure in R4 were Chin (49.0 percent of households felt insecure), Kayah (46.9 percent), and Kachin (44.3 percent) (Figure 2 and Table A.1). The number of households feeling insecure decreased in Kayah between R3 and R4 but remained constant in Chin and Kachin. At the same time, between R3 and R4, the number of households feeling insecure increased significantly in Kayin, from 26.9 percent of households in R3 to 35.6 percent of households in R4. The number of households feeling insecure also increased dramatically in Shan state, from 16.4 percent in R3 to 23.1 percent in R4.

Again, respondents in Chin (40.6 percent) and Kayah (32.2 percent) had the lowest levels of trust in their community (Table A.1). Though levels of trust were similarly low in Tanintharyi (32.0) and Kachin (31.0). Further, trust declined significantly between R3 and R4 in Kachin, Kayin, Mandalay, and Shan. Trust improved slightly in Sagaing and Kayah, where violence was particularly widespread during R3. Community insecurity and lack of social trust may be a result of an uptick in crime or violence in the community.

The states/regions that reported the most crime in their communities were Kachin (27.0 percent of households) and Yangon (23.8 percent of households) (Table A.1). Between R3 and R4, there was a notable increase in crime in large urban and peri-urban areas. Compared to R3, in R4 crime increased in urban Bago, Yangon, Shan, and Nay Pyi Taw (Table A.2). In rural villages of Bago, Rakhine, and Mandalay there was also an increase in crime.

The three states/regions where households reported the most violence were Kachin (17.3 percent of households), Yangon (13.1 percent of households), and Sagaing (13.1 percent of households). Between R3 and R4, there was a significant increase in reported violence in Bago, Mandalay, Mon, and Nay Pyi Taw. On the other hand, there was a notable drop in violence in Kayah and Sagaing, between R3 and R4. Nonetheless, these two regions, are still experiencing some of the highest levels of violence in the country (Figure 2).





Source: (ACLED) dataset (left) Author's calculations based on MHWS data (right). Notes: Violent events include the sum of all battles, explosions, and violence.

Eight percent of respondents were negatively impacted by violence and/or crime against their household, including 1.1 percent of households who experienced violence against a household member, 1.3 percent of households who suffered the destruction or appropriation of an asset, 4.9 percent of households who were impacted by theft or robbery, and 0.9 percent of households who were forced to give bribes or payments (Table 2). The incidence of households or household members being victims of theft/burglary was much higher in urban areas, 7.1 percent versus rural areas 4.0 percent. Theft/burglary was particularly high in urban areas

because of alarmingly high rates in urban Yangon (9.3 percent), Mandalay (9.0 percent), Chin (8.9 percent), and Magway (8.6 percent) (Table A.2). Further, more households in Shan and Nay Pyi Taw were burglarized in R4 than in R3.

	R2	R3	R4	Rural	Urban
Assault/detention	0.8	1.0	1.1	1.1	1.1
Destruction/appropriation of assets	1.1	1.4	1.3	1.3	1.3
Theft/robbery	3.6	4.2	4.9**	4.0	7.1***
Bribery/forced payments	0.5	0.9	0.9	0.9	0.9
Observations	12142	12128	12924	9223	3701

Table 2. Percent of households experiencing security shocks against their householdover the past three months

Note: asterisks denote difference from the previous MHWS round, as well as the difference between rural and urban locals. We did not collect this data in R1. Asterisks show significance at p-values * p < 0.10, ** p < 0.05, *** p < 0.01. Source: Author's calculations based on MHWS data.

In R4, households in Kayah state continued to suffer from high levels of violence and crime against them. In Kayah, 11.8 percent of households suffered damage to an asset or had an asset appropriated, and 11.4 percent of households endured theft/robbery (Figure 3 and Table A.1). In Chin state, while destruction/appropriation of assets decreased between R3 and R4, still 4.1 percent of households had their assets destroyed or appropriated, which was higher than in all other states except for Kayah.

Figure 3. Percent of households experiencing security shocks against their household over the past three months, by state/region



Source: Author's calculations based on MHWS data.

While the lowest levels of reported insecurity continued to be in Nay Pyi Taw (10.5 percent), Bago (11.5 percent), and Ayeyarwady (12.8 percent), insecurity is increasing in these regions (Table A.1). Between R3 and R4, crime and violence increased in Bago and Nay Pyi Taw. At the household level, Nay Pyi Taw saw the second highest increase in theft/robbery against households, while Bago experienced the highest increase in bribery/forced payments (Table A.1).

3.1.2 Climatic shocks

In R4, 11.7 percent of households reported facing at least one climatic shock over the past three months. Climatic shocks were a greater issue in rural areas, compared to urban with 13.7 percent of rural households experiencing a climatic shock versus 6.6 percent of urban households. The recall period for R4, August through December, is the end of the monsoon season in Myanmar. The two largest climatic shocks reported were flooding (5.6 percent of households) and strong wind (3.1 percent of households) (Figure 4). The incidence of flooding was more prevalent in R4 compared to R3 and R2, which is common at the end of the monsoon season. Although the impact of climatic shocks was lower compared to R3 (13.2 percent of household) and R2 (12.1 percent of household), it was higher than in R1 (10.9 percent of households), whose recall period was from September to December 2021.

At the regional level, about six percent of households in Kayah, Rakhine, Magway, and Bago were impacted by drought because of erratic rainfall (Table A.4). Flooding impacted 10.9 percent of households in Kayin, around 8.0 percent of households in Chin and Ayeyawady, and nearly 7.0 percent of households in Shan and Kachin. Intense winds were a danger to households in Rakhine and Chin, negatively impacting 11.0 and 9.1 percent of households, respectively.



Figure 4. Percent of households experiencing climatic shocks, by MHWS round

Source: Author's calculations based on MHWS data.

3.1.4 Health shocks

From July to December 2022, 43.6 percent of households had a member who was sick, which is higher than in the two previous rounds (Figure 5). This number, although quite high, was significantly lower than the 57.0 percent of households who had someone sick in R1. This is, in part, due to a decline in the number of COVID-19 cases reported in R4. Over this period, the prevalence of COVID-19 appears to have declined. In R3, 15.3 percent of households had at least one member with COVID-19 symptoms, while in R4, 10.2 percent of households had at least one member with COVID-19 symptoms. At the same time, the number of households with a member sick in R4 increased from 31.6 percent to 44.2 percent.

Figure 5. Percent of households experiencing sickness, COVID-19 or death, by MHWS round



Source: Author's calculations based on MHWS data.

3.1.4 Service sector shocks

Banking difficulties continued to decline in R4, but 4.3 percent of households still paid agent fees to obtain cash while 2.5 percent of the households reported that they faced other financial issues. In the MHWS, households were asked if they had significant difficulties obtaining cash from banks or other financial institutions (Figure 6). In R1, 10.7 percent of households had to pay agent fees to obtain cash, 5.8 percent of household could not take out cash because the bank was either closed or had no cash, and 3.9 percent of households could only withdraw a limited amount of cash. In R2 and R3, banking difficulties declined significantly, but 7.2 and 6.6 percent of households still needed an agent to obtain cash in each round. In R4, 4.3 percent of households needed an agent to obtain cash. However, in urban areas 11.0 percent of households needed an agent to obtain cash, significantly more than in rural areas. At the same time, most banks were open and had an unlimited withdrawal amount for those with special accounts (MAPSA, 2022). Compared to R2 and R3, however, in R4 more households decreased their use of the banking system.





Source: Author's calculations based on MHWS data.

In R4, almost half of the households (47.2 percent) did not have access to the internet regularly. In R1, R2, and R3, 50.1, 54.2, and 53.6 percent of households, respectively, could not access the internet or could only access it a few times per month (Figure 7). In R4, 23.1 percent of households could not access the internet at all in the month prior to the survey, compared to 24.7 percent in R3. Internet use was especially difficult in Sagaing and Chin where 67.3 and 64.3 percent of households could not access the internet at all in the month prior to the survey. Lack of internet access was a result of internet service disruptions, as reported by 43.2 percent of households. Households also reported not being able to afford to pay for the internet both because of high fees (8.4 percent), and a limited budget or no working mobile phone (31.5 percent). Internet service disruptions was the primary reason for the lack of internet in Sagaing, (83.7 percent of households reported that this is why they had no internet access), Chin (75.9), and Kachin (52.8 percent).





Source: Author's calculations based on MHWS data

Of the household members who needed medical services, 7.6 percent of households in the month prior to the survey could not access medical services and 13.5 percent of households could only access medical services once or twice. Among households that need medical services, access to them has been increasing gradually since R1. But in some states/regions medical access continues to be limited. In Chin, 32.1 percent of households could not access medical services in the last month. This is in addition to the 15.1 percent of households who could only access medical services once or twice. In Kayah, 42.0 percent of households either could not access medical services or could only access them once or twice in the last month.

Access to schooling is improving compared to earlier rounds. However, there is significant regional variation. Less than 60 percent of children 5 to 14 years in Sagaing and Chin were enrolled in the three months prior to the survey, between July and December 2022. In R2, only 52.5 percent of children 5 to 14 years were attending school, 40.8 percent in urban areas and 56.5 percent in rural areas. In R3, this number jumped to 76.8 percent nationally, 74.1 percent in urban areas and 77.7 percent in rural regions. In R4, 79.3 percent of children were attending school, 80.7 percent of rural children and 75.2 percent of urban children. While the number of children attending school increased between R3 and R4 overall, in many states/regions enrollment remains low. In Sagaing enrolment was only 44.9 percent of students in R4. In Chin, Tanintharyi, and Kayah enrollment was 58.1 percent, 66.5 percent, and 67.7 percent, respectively. Though there was significant improvement in school enrollment in Kayah, Kachin, Sagaing, Bago, and Ayeyawady between R3 and R4, in Shan, school enrollment declined between R3 and R4 (Figure 8). The continued loss of enrollment will have lasting economic impacts on the lives of the students and the economic future of Myanmar.





Source: Author's calculations based on MHWS data.

3.1.5 Economic shocks

In R4, 61.5 percent of households were negatively impacted by higher food prices, while 57.5 percent of households were negatively impacted by higher fuel prices (Table 3). Fewer rural households were negatively impacted by higher food price inflation, possibly because they were able to supplement from their own-production, and or as farmers, benefited from higher prices. Thirty-seven percent of households were negatively impacted by the loss of employment, this was a greater issue in rural areas compared to in cities. Finally, 33.2 percent of households were negatively affected by a loss of electricity. This was particularly detrimental to urban residents.

Households in Kayah were particularly negatively impacted by economic shocks; 77.5 percent of households were negatively impacted by high food prices, 68.0 percent of households were negatively impacted by loss of employment, and 49.8 percent of households were negatively impacted by loss of electricity. These three shocks were particularly high in Kayah due to the high level of conflict in the region (Table A.1) In Tanintharyi, households also suffered from high food and fuel prices, 73.0 and 70.2 percent, respectively.

	National	Urban	Rural
Higher food prices	61.5	63.1	60.9**
Higher fuel prices	57.5	56.6	57.8
Loss of employment	37.3	34.8	38.3***
Exchange rate fluctuation	20.4	25.2	18.6***
Loss of electricity	33.2	46.2	28.2***
Unable to assess money in bank account	5.2	8.6	3.8***
Observations	12924	9223	3701

Table 3. Households negatively impacted by economic shocks, R4 MHWS

Source: Author's calculations based on MHWS data.

In R4, 46.5 percent of households reported lower income compared with last year, with 29.5 percent facing a significant reduction in income (greater than 20 percent) and 17.0 percent experiencing a small reduction in income (1–20 percent). The combination of conflict, disease, COVID-19 policy, and international events has reduced household earnings in Myanmar. Fewer households reported lower income compared to the previous year in R4 and R3, compared to R2, where 55.4 percent of households reported lower income compared to the previous year, and R1, where 64.9 percent of households reported lower income compared with the previous year (Figure 9). Seventeen percent of panel households reported income losses in all four periods, while 22.9 percent of households reported income reductions in three periods. Fifteen percent of households have not experienced an income reduction compared to last year in any quarter of 2022.



Figure 9. Change in household income compared to the previous year, by MHWS round

Source: Author's calculations based on MHWS data.

In R4, self-employed non-farm workers along with casual non-farm and farm wage earning households were the most likely to experience income loss compared to the previous year. Fifty-three percent of self-employed non-farm workers, 52.0 percent of casual non-farm earning households and 51.6 percent of farm wage earning households reported lower income this year compared to the last (Table 4). While this is significantly lower than in R2 where 59.6 percent of households earning income from non-farm wage work and 63.5 percent of household dependent on income from farm wage work reported lower income compared to the previous year, this is higher than in R3.

Compared to households earning money from other income streams, households employed in salaried work, both farm and non-farm, were the least likely to see an income reduction compared to the previous year. This has been true in all rounds. Compared to the previous year, 42.6 percent of farm households earned lower income in R4. This is worrisome because the recall period for R4 includes October through December, which is the major harvest season for monsoon crops.

While fewer households reported lower income in R4 compared with rounds two and one, it is important to highlight that 17.0 percent of panel households that were surveyed in every round reported lower income in all periods, making these households especially vulnerable. Further, it is important to note that this is a comparison to last year, so it masks the chronic vulnerability of households. Finally, because we base the comparison on the main source of income this period, some estimates may be inaccurate since it is possible that the principal sources of income changed from one year ago.

	Large reduction (>20%)	Small reduction (1-20%)	No change (%)	Small increase (1-20%)	Large increase (>20%)
All households	29.5	17.0	31.9	15.5	6.1
Self-employment					
Farm (crops, livestock and aquaculture)	26.2	16.4	30.3	18.6	8.4
Non-farm (any other)	35.0	18.4	26.9	13.6	6.1
Salaried employment					
Farm (crops, livestock and aquaculture)/ non-farm	19.7	12.9	43.9	17.2	6.3
Casual wage work					
Farm (crops, livestock and aquaculture)	33.3	18.7	31.7	14.1	2.3
Non-farm (any other)	32.0	19.6	30.6	13.4	4.4
Other incomes sources					
Remittances	27.4	14.4	32.6	16.1	9.5
Gifts, donations, pensions, or other assistance	36.7	9.2	41.9	8.6	3.5
Renting out of land or properties	29.2	8.2	43.3	10.8	8.5

Table 4. Percentage of households with reduced income compared to one year ago, by main livelihood source

Note: In R3, the main source of income for 27 percent of households was from on farm self-employment, 28 percent from non-farm self-employment, 13 percent from salaried work, 26 percent from causal farm wage work, 21 percent from causal non-farm wage work, 11 percent from remittances, 9 percent from gifts, donations pensions or other assistance, and 4 percent from renting out land or other properties.

Source: Author's calculations based on MHWS data.

Households in Kayah, Sagaing, and Rakhine suffered from the highest income reduction, 64.9, 53.6 and 53.6 percent of households, respectively. Table A.5 shows the share of households with reduced income in each State/Region of the country, while Figure 10 shows the share of households who are economically affected. We classify households as 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 10). While households in Kayah, Sagaing, and Rakhine were the most vulnerable, more than 50 percent of households in Kayah, Sagaing, and Chin were economically vulnerable as well. While households in Kayah still fared the worst in the country, they were less economically vulnerable compared to the previous round. On the other hand, compared with the last round there was a notable increase in the percentage of households with lower income compared to last year this round in Rakhine, Sagaing, Kayin, and Yangon.

Figure 10. Percentage of households who had no or reduced income in the past three months compared to one year ago, MHWS R4



Source: Author's calculations based on MHWS data.

Note: Households are classified as 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.

Twenty-one percent of salaried/wage workers reported reduced working hours or less work as their main challenge in R4, compared to 20.6 percent in R3, 21.8 percent in R2 and 43.4 percent in R1 (Table A.6). In MHWS households reported the main challenge they faced in the last three months, based on their principal source of income. Reduced working hours was the largest challenge faced by salaried/wage workers. This was a bigger issue in rural areas, 23.4 percent of wage/salaried workers versus urban areas 15.8 percent of wage/salaried workers. Further, 6.8 percent of wage/salaried workers reported low/reduced wages as their principal challenge, which is a gradual improvement over rounds from 20.9 percent in R1. In fact, 58.1

percent of wage workers stated they faced no difficult in R4, compared to 53.3 percent of workers in R3. On the other hand, 2.4 percent of workers reported that their wages were not paid or were paid late, which is greater than the 0.7 percent of workers in R3. While nationally, 4.7 percent of wage/salary workers reported it was unsafe to travel to their work location, in Kayah, 23.9 percent of wage/salary workers reported this issue, and in Sagaing 10.0 percent.

The main challenges that farmers faced in R4 were high prices of inputs or mechanization services (26.0 percent) and weather (21.0 percent). High prices of inputs were considerable issues in Kayah, faced by 48.6 percent of farmers, and Shan faced by 40.6 percent of farmers. Further, weather negatively impacted crop production for 35.6 percent of farmers in Rakhine, 32.5 percent of farmers in Magway, and 31.2 percent of farmers in Bago. Compared to R3, fewer households reported high fuel prices as the most important issue they faced, only 2.7 percent compared to 7.7 percent in R3. (Table A.7). Issues with pests/diseases (7.2 percent) declined as well, but were quite high in Chin, 16.6 percent of farmers. It is important to note that while nationally, 3.1 percent of farmers faced issues hiring workers, in Kayin, 8.8 percent of farmers faced this issue.

The main issues farmers faced in terms of selling their crops were low prices for crops (11.7), though this reduced significantly from R3 (22.2 percent) and difficulty reaching traders (3.8 percent) (Table A.8). Low prices for crops continued to be a significant issue in Rakhine and Shan 20.1 percent and 21.4 percent of farmers, respectively. In Chin, 12.8 percent of farmers reported that there were not many traders with whom to sell their crops. In Kayah and Sagaing, 8.3 percent and 7.7 percent of farmers stated that buyers or traders could not reach their farm because of conflict.

For non-farm enterprises, 16.7 percent reported high prices of raw materials as their main challenge in R4 (Table A.9). Increasing fuel prices declined as a prominent issue in R4, with 6.9 percent of non-farm enterprises reporting high fuel prices as the main issue they faced. In Chin, still 15.6 percent of non-farm business faced this issue. Seven percent of businesses struggled reaching customers physically in R4. Fifteen percent of non-farm business owners reported that their greatest challenges was that no customers bought their products. This was particularly an issue in Kayah and Chin. This is likely due to the low purchasing power of households across the country. A growing issue that non-farm enterprises are facing is that people are not paying off their debts, and more people are buying on credit. In Rakhine 11.4 percent of non-farm enterprises faced this issue. Finally, 7.0 percent of non-farm businesses stated that customers could not reach their business. This was an issue for 13.2 percent of non-farm business in Kayin and Sagaing.

3.2 Coping strategies

Overall, 83.6 percent of households used at least one coping mechanism to deal with lack of food or money in the past 30 days, 86.1 percent of rural residents and 77.2 percent of urban residents (Table 5). Shocks can be particularly damaging to household well-being, when either the household cannot deploy a coping mechanism to ensure the same living standard or, the household is forced to use a coping mechanism that results in permanent loss of assets, income, or safety. In the MHWS, households identified all the coping strategies they used in the past 30 days to cope with lack of food or money. On average, households reported using 3.2 different coping mechanism over the 30 days prior to R4, more than in rounds two and three, but less than the 3.7 in R1.

	R1	R2	R3	R4
Number of coping mechanisms used	3.69	2.98	3.01	3.23***
Uses at least one coping mechanism (%)	89.8	83.3	82.3	83.6***
Spent saving (%)	76.1	67.8	66.0	69.6***
Reduced non-food expenditures (%)	65.7	55.7	52.6	56.8***
Reduced food expenditures (%)	67.0	54.5	52.4	56.8***
Borrowed money (%)	45.2	36.9	35.0	37.4***
Purchased food credit or borrow (%)	42.1	32.7	34.1	36.4***
Reduced expenditures on health (%)	41.0	34.6	31.0	41.9***
Mortgaged household assets (%)	23.9	19.7	18.7	20.7***
Sold household assets (%)	20.1	15.1	13.4	15.4***
Mortgaged non-ag productive assets/transport (%)	1.0	0.8	0.9	0.9
Sold non-ag productive assets/transport (%)	4.7	3.3	2.9	3.9***
Mortgaged/sold house (%)	1.7	1.9	1.3	1.2
Mortgaged/sold land (%)	0.5	0.4	0.5	0.5
Engaged in high-risk activities (%)	4.5	3.6	5.1	5.3
Children need to work (under 15) (%)	6.4	7.3	5.8	6.2
Migrate entire HH (%)	1.3	1.4	1.4	1.0***
Agricultural households only				
Reduced ag-input expense (ag HH only) (%)	60.3	53.2	50.3	55.8***
Sold or consumed seed stocks (ag HH only) (%)	25.3	22.7	21.0	22.7**
Mortgaged/sold ag productive assets (ag HH only) (%)	1.9	1.4	1.3	1.8***
Number of observations	12100	12142	12128	12924
Number of farming HHs	5465	5605	5678	5939

Table 5. Coping mechanisms	used to deal	with lack	of food o	or money	in the past 3	0 days,
by MHWS round						

Notes: ¹Household assets include radio, furniture, television, jewelry, etc. ²Non-agric productive assets include sewing machine, wheelbarrow, bicycle, car, etc.

Note: Asterisks on R4 show statistically significant differences between R3 and R4 observations; * p < 0.10, ** p < 0.05, *** p < 0.01. Source: Author's calculations based on MHWS data.

Overall, the most common coping strategies were spending savings (69.6 percent), reducing non-food expenditures (56.8 percent), and reducing food expenditures (56.8 percent). More households spent savings in rural areas than in urban areas (Table A.11). Excluding households who did not have any savings in the first place, 34.6 percent of households in R4 reported they no longer had any savings to spend. Forty-one percent of households had to reduce both their food expenditure and their non-food expenditure, while 22.6 percent of

households had to reduce food and non-food expenditure and also spend their savings. Overall, more households reported using these coping strategies in R4 compared to the previous two rounds. Further, 29.5 percent of panel households reduced their non-food expenditure in all four periods, 17.9 percent of households spent some of their savings in all four periods, while 27.7 percent of households reduced their food expenditure in all three periods. Finally, households who reduced their food expenditure did so mainly by decreasing their spending on meat (85.9 percent), fish (78.0 percent), and oils, fats, and butter (84.2 percent (Table A.10). Rural and urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on those food groups equally. More urban households decreased their expenditures on dairy, 53.4 percent, and restaurant and take-away meals, 70.2 percent. From R3 to R4, food price inflation increased again. The price of chicken increased by 21.3 percent, while the price of fresh fish increased by 4.0 percent. Further, the price of vegetables increased by 75.9 percent. The prices of staples and pulses also rose by 32.8 and 31.7 percent, respectively.

Indebtedness is an increasing issue in Myanmar, especially in rural areas. The number of households who borrowed money, 37.4 percent, increased from the previous round, 35.0 percent. The number of households who borrowed food or bought food on credit also increased from the previous round, 36.4 percent compared to 34.1 percent. 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. Households were asked if they currently owe any money to loan or credit providers, including banks, MFIs, moneylenders, shops, traders, suppliers, relatives, or friends.

In R1, 61.5 percent of households owed money (Table 6), while after R4, 54.9 percent of households owed money. Significantly more rural households owed money than urban households. Among panel households, or households that were surveyed in R1, R2, R3, and R4, 19.9 percent did not owe money over the entire survey period. On the other hand, 34.6 percent owed money in R1 and continued to owe money in R4. Asset poor households were more likely to owe money than asset low or asset rich households.

	R1	R2	R3	R4
National	61.5	56.2***	55.0*	54.9
Rural	66.6	60.7***	59.5	59.4
Urban	48.4	44.5***	43.5	43.3
Asset poor (0-3 assets)	72.8	68.3***	65.9**	65.1
Asset low (4-6 assets)	62.9	55.8***	55.5	55.0
Asset rich (7-10 assets)	45.0	40.9***	38.9	38.1

Table 6. Percent of household who owe money to a lender, by MHWS round

Note: asterisks denote difference from the previous MHWS round and show significance at p-values; * p < 0.10, ** p < 0.05, *** p < 0.01.

Source: Author's calculations based on MHWS data.

About 18 percent of households in R4 said it would be very difficult to pay back their debt. What is particularly alarming is that these households, who reported difficulty in paying back their loans, used more coping strategies than households who stated that they would be able to pay off their loans (Table A.12). Fourteen percent of households who felt that it would be difficult to pay off their loans engaged in high-risk activities, and 10.4 percent sold non-agricultural productive assets. Thirty-seven percent sold household assets and among agricultural households, 40.6 percent sold or consumed seed stocks.

To meet daily needs, 20.7 percent of households mortgaged household assets and 15.4 percent sold household assets. Mortgaging assets is more common in rural areas while selling assets is more common in urban areas. Household assets include gold, jewelry, furniture, technology, and appliances. The most common asset sold and/or mortgaged was gold and/or jewelry. Among panel households, 6.7 percent mortgaged an asset in all four periods, 17.6 percent mortgaged an asset in three periods, while 4.7 percent sold an asset in all four periods, and 9.7 percent sold an asset in three periods. Further, 22.7 percent and 23.4 percent of households reported that they had no more household assets to mortgage or sell in R4, respectively. Four percent of households sold non-agricultural productive assets including sewing machines, wheelbarrows, bicycles, cars, and other means of transportation, and less than one percent mortgaged these assets. Among panel households, 7.0 percent of households mortgaged or sold them in three or four periods. Finally, some households also mortgaged or sold critical assets such as their dwelling (1.2 percent) or agricultural land (0.5 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 assets continues to be concerning.

Households also pursued risky activities to meet their daily needs. This includes 5.3 percent of households that engaged in income-generating activities that they themselves considered risky, and 6.2 percent of households where children worked to complement household income. Both coping strategies were more common in rural areas, compared to urban areas. Most households who engaged in a risky activity did so only in one round. Of the panel households who engaged in a risky activity, 78 percent did so in one round, 16.6 percent in two rounds, and 5.3 percent did so in three or all four rounds. Finally, 1.0 percent of families migrated with their entire household to deal with the dire economic situation.

Nationally, 55.8 percent of agricultural households reduced ag-input expenses, this is higher than the previous period. Households also consumed or sold their seed stocks (22.7 percent) and sold other agricultural assets (1.8 percent). The most common agricultural asset sold was livestock. Reducing ag-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.

Among households who used only one coping strategy, the most common coping strategy was either spending savings (59.6 percent) or for agricultural households reducing agri-input expenses (26.8 percent) (Table A.12). When households used two coping strategies, most households spent their savings (73.2 percent), and additionally, households also began to reduce their food and non-food expenses, around 40 percent respectively. Among households that used three coping strategies, nearly all of them spent savings and reduced food

and non-food expenditure. Further, around 30 percent borrowed money and purchased food on credit. When households used four coping strategies, they began to mortgage and sell households assets. Finally, households that used six or more coping strategies, began to sell non-agri-productive assets (11.9 percent), sell or consume seed stocks (55.4 percent), engage in high-risk activities (18.8 percent), and have children work (11.3 percent).

The situation of households is dire in Kayah, Chin, Rakhine, and Kachin as shown by the number of coping strategies used. Figure 11 and Table A.14 show coping strategies in each State/Region of the country. In Kayah, 92.9 percent of households used at least one coping mechanism in the past 30 days, and households used on average 4.3 different coping mechanisms. Further, compared to other states/regions, more households in Kayah spent their savings (91.1 percent), reduced their non-food and food expenditure (78.4 and 79.9 percent), sold household assets (30.7 percent), and sold non-agri productive assets (8.7 percent). In Chin, 90.0 percent of households used at least one coping mechanism, and the average household used 3.7 coping strategies. Compared to other states/regions, more households in Chin borrowed money (48.4 percent), purchased food on credit (55.9 percent), and mortgaged/sold agricultural productive assets (4.7 percent). Similarly, in Rakhine State, 87.8 percent of households applied at least one coping mechanisms on average. Rakhine had the greatest number of households mortgage household assets, 33.6 percent.

Also alarming, is the percent of households who engaged in high-risk activities to meet daily needs, including 13.5 percent in Kayah and 12.9 percent in Chin. Further, in Kayah, 8.7 percent of households had children working while in Chin, 11.5 percent had children working. Further, approximately 4.9 percent of households in Kayah and 3.5 percent in Chin migrated from these states.

In Kayah, 69.3 percent of farmers reported reducing their ag-input expenses, compared to 58.0 percent in the last round. This marks an increase from R3. In Rakhine, 64.3 percent of farming households reduced ag input expenses compared to 59.4 percent in R3. Finally, in Kachin 60.0 percent of farmers reduced their ag-input expenses, which is much higher compared to the last period.

Figure 11. Percent of households applying at least one coping mechanism, by State or Region



Source: Author's calculations based on MHWS data.

Asset poor households were more likely to use coping strategies than asset low and asset rich households. Figure 12 shows different coping strategies used by asset class for R4. In R4, 63.7 percent of asset poor households reduced their non-food expenditure, 66.7 percent reduced their food expenditure, and 75.7 percent spent their savings. Particularly striking is the difference between asset poor and asset rich households in terms of buying food using credit and borrowing money. Fifty-four percent of asset poor households. Further, 50.1 percent of asset poor households borrowed money compared to 19.5 percent of asset rich households. Finally, asset poor households were most likely to sell and mortgage assets.



Figure 12. Coping strategy by asset class

In R4, 16.0 percent of households received income from remittances. Monetary transfer into the household may help households cope with shocks. But households in Myanmar receive little support from local and international relief organization and/or the Government. Instead, most transfers into the household come from friends and family. Table 7 presents different transfers into the household. Unemployment benefits are not common in Myanmar and less than 0.05 percent of households in R4 received unemployment. Pensions are more common. Around 3.1 percent of rural households and 7.7 percent of urban households received pensions in R4. Support from relief organizations was less frequent. Local relief organization provided support to around 0.8 percent of households in R4, a decrease from the previous round. International relief organizations provided support to about 2.0 percent of households during the same months. International relief was more prevalent in urban areas. A more common form of support was money for food given by friends or family. In R4, 9.2 percent of households received money from this source, more than in the three previous rounds. Finally, the most important source of support was remittances.

	R1	R2	R3	R4
Unemployment benefits	0.3	0.1***	0.1	0.0
Pensions	4.6	4.6	4.2	4.1
SAC/ local governing entities	0.7	0.8	0.5**	0.8*
Local relief organization / local NGO	1.4	1.1*	1.0	0.8*
International relief organization	1.7	1.9	2.0	2.0
Monastery, church, other religious group	0.6	0.5	0.4	0.3*
Community-based savings/ credit group	0.3	0.3	0.1**	0.1
Family, friend of other individual	8.1	8.9**	7.0***	9.2***
Remittances	15.1	16.1*	14.5***	16.0***

Table 7. Share of households receiving support

Note: asterisks denote difference from the previous MHWS round and show significance at p-values; * p < 0.10, ** p < 0.05, *** p < 0.01

Source: Author's calculations based on MHWS data.

3.3 Income Poverty

In R4, income-based poverty reached 65.6 percent of the population, which was a 15.0 percentage point increase compared to R1 and a 4.0 percentage point increase compared to R3 and was largely attributable to changes in urban poverty (Table 8). The increase in poverty between R3 and R4 was the smallest round to round increase in poverty of the year. Over the course of 2022, most of this increase took place in rural areas where poverty increased from 51.9 percent to 69.0 percent compared to urban areas where poverty increased from 47.2 percent to 56.6 percent. However, between R3 and R4, urban poverty increased quite sharply (6.3 percentage points), likely due to the continued harmful impacts of inflation on disposable incomes. Income poverty is negatively associated with asset ownership; in R4, poverty reached 79.9, 63.9, and 46.5 of the population for households classified to be asset poor, asset low, and asset rich, respectively (Table A.15)

Percentage Percentage **R1 R2** R3 **R**4 change R1-R4 change R3-R4 6.6*** 50.6 57.1 61.5 65.6 29.7*** National Rural 51.9 60.3 65.8 69.0 32.9*** 4.8*** 19.9*** Urban 47.2 48.7 56.6 12.5*** 50.3

Table 8. Income-based poverty headcounts by round

Note: asterisks denote difference from the previous MHWS round and show significance at p-values; * p < 0.10, ** p < 0.05, *** p < 0.01.

Source: Author's calculations based on MHWS data.

In several states, poverty rates peaked in R2 or R3 and at least partially recovered in R4 (Chin, Kachin, Kayah, Tanintharyi, Shan); in contrast, Yangon saw a large jump in R4 to 52.7 percent of the population after little change in poverty rates between R1 and R3 (Figure 13). Despite improvements in R4, poverty in Kayah nearly doubled in 2022 to 79.2 percent. Kayin and Kachin had two of the highest poverty rates in R1 with little to no total change compared to R4, and as a result, their R4 poverty rates land roughly in the middle compared to other state/regions.



Figure 13. Regional trends in income-based poverty headcounts

Source: Author's calculations based on MHWS data. Note: R4 poverty rates are labeled.

Households whose main source of income is farm wages/salaries are consistently the most vulnerable income group followed by non-farm wage earners, with 88.2 and 76.9 percent of the population living in these households under the poverty line in R4, respectively (Figure 14). In R2 through R4, non-farm business and non-farm salary households fared the best. However, compared to other income groups in all rounds, non-farm salary households saw one of the largest increases in poverty between R3 and R4 (24.2 percent) to 52.5 percent.

Income poverty in farming households exhibits strong seasonal patterns. R1 is a period following the monsoon rice harvest. During this period farm households had the highest incomes of 2022 and had a poverty rate of 40.1 percent, lower than any other livelihood group except non-farm salary households. Poverty rates in farming households peaked at 63.9 percent in R3, which corresponded with the lean season. Income in farm households rose in R4 with the monsoon rice harvested but not to the levels seen in R1 as the harvest is likely still being sold. Rising incomes accompanied by high food inflation led to poverty in farm households falling only slightly in R4 to 62.9 percent.



Figure 14. Income-based poverty headcounts by livelihood

Source: Author's calculations based on MHWS data.

The poverty line increased by 49.7 percent between round R1 and R4 and 24.7 percent between R3 and R4 due to rising food prices. The poverty line represents the cost of acquiring a basic bundle food and nonfood needs. The cost of a bundle is estimated in a base year (2015 in Myanmar) and then in subsequent periods adjusted for food inflation to estimate its current cost. Thus, a non-poor household falls into income-based poverty when their income does not keep pace with the rising costs of the poverty line. To measure poverty in the MHWS we update the poverty line in each round using a food price index (Figure 15). The food price index increased by 49.7 percent between R1 and R4 – 52.4 and 43.8 percent in rural and urban areas, respectively. The largest price increase occurred between R3 and R4 (24.7 percent), with similar increases in urban and rural areas. We do not collect sufficient information on nonfood items to separately adjust the food- and nonfood-poverty lines. However, evidence from the MHWS and the World Food Programme (2022, 2023) indicate that petrol prices also rose by at least 50 percent between R1 and R4, which suggests that the food price index may provide a reasonable proxy for nonfood inflation.



Figure 15. Food price index by round

Source: Author's calculations based on MHWS data. Note: Percentage change noted between rounds refers to change in the value of the price index basket at the national level.

Increases in poverty are driven primarily by inflation, particularly in rural areas. In Figure 16, we decompose the roles of income and inflation on rising poverty in rural and urban areas of Myanmar. The area under the income distribution to the left of the poverty line represents the share of population that is poor. Panel A shows that in rural areas the distribution of nominal income changes very little between R1 and R4, thus the change in the share of the population that is poor is almost entirely linked to inflation (the poverty line shifting to the right). In contrast, in urban areas (Panel B), both the income distribution and the poverty line shift to the right in each round. Rising nominal incomes somewhat offset rising living costs between R1 and R3, and therefore, we see small changes in urban poverty (about 3 percent) between R1 and R2 and between R2 and R3 (Table 8). However, between R3 and R4, the rightward shift in the urban income distribution does not keep pace with the 24.7 percent increase in the poverty line in the last quarter of 2022. Consequently, we see the largest increase in urban poverty (12.5 percent) from R3 to R4.

Figure 16. Income distribution and poverty lines in rural and urban areas by round





Panel B: Urban areas



Source: Author's calculations based on MHWS data

4. VULNERABILITY ASSESSMENT

In this section, we explore how shocks and household characteristics are associated with vulnerability. More specifically, we explore to which extent household characteristics and different shocks are associated with whether households are economically affected, have critically low incomes, and the coping strategies they employ. Households are defined as economically affected if they have experienced a large or a small reduction in income compared to the previous year or if they had no income at all in the past three months. Households are considered as income poor if their per adult equivalent daily income is less than the poverty line.

The results show that households facing security, climatic, and health shocks are more likely to experience a reduction in income compared to the previous year (Column 1 in Table 9). Each violent event in the area increases the likelihood that a household is economically affected by 0.1 percentage points. Since the number of violent events range from 1 to around 500, for households in heavy conflict-affected areas, this has a serious impact on welfare. We also include a self-reported insecurity variable. Households who feel they live in an insecure community are 8.1 percent more likely to be economically affected. A death in the household increases the likelihood a household is economically affected by 13.8 percentage points.

Households' livelihood profiles matter. Households whose main source of income is from a non-farm business have a 6.7 percentage point probability of being economically affected compared to own farm households. Similarly, non-farm casual wage and farm casual wage households are more likely to be economically affected than farm households, at nearly the same magnitude as non-farm households, 6.2 and 6.6 percentage points, respectively. Households earning money from salaried labor are less likely to be economically affected than farm households. Households in which the head has completed only primary education are more likely to be economically affected as well as larger households. Households living in rural areas are less likely to be economically affected than those in urban areas. Finally, compared to households in Bago, households in Kayah, Chin, and Yangon are more likely to be economically affected.

While shocks significantly increase the probability that a household is economically affected, they are less strongly associated with income poverty. While there remains a significant though small association (3.1 percentage points) with experiencing violence, there is no longer a clear association with climate and health shocks. Compared to households with farm income, households who rely on income from non-farm casual wage work and farm casual wage work are more likely to be income poor. Farm casual wage workers have a 25.1 percentage point higher probability of being income poor than farm households. Remittances, on the other hand, help to avert income poverty. Households in which the head has completed only primary education are more likely to be income poor by 10.7 percentage points. Women only households and households with larger household sizes are also more likely to be income poor. Finally, rural households are more likely to be income poor as well.

Table 9. Exploratory regression analysis of characteristics associated with economicstatus and income poverty

	Economically affected	Income poor
Number of violent events (ACLED)	0.001***	0.000
Violence in community	0.081***	0.031***
Climate shock	0.071***	0.006
Death in HH	0.138***	-0.030**
Non-farm own vs own farm	0.067***	-0.007
Non-farm salary vs own farm	-0.120***	-0.078***
Non-farm wage vs own farm	0.062***	0.116***
Farm wage vs own farm	0.066***	0.251***
Remittances	-0.053***	-0.129***
Transfers from friends/family	-0.018**	-0.001
Primary education only (HH head)	0.034***	0.107***
Women only household	-0.006	0.049***
Child <5yr old in HH	0.016***	0.011*
HH size	0.009***	0.050***
Respondent is female	0.007	0.073***
R2 vs R1	0.005	0.002
R3 vs R1	-0.091***	0.036***
Rural vs urban	-0.027***	0.024***
Kachin vs Bago	0.022	0.109***
Kayah vs Bago	0.181***	0.188***
Kayin vs Bago	0.018	0.101***
Chin vs Bago	0.071***	0.260***
Sagaing vs Bago	0.015	0.047***
Tanintharyi vs Bago	-0.017	0.035**
Magway vs Bago	-0.008	0.058***
Mandalay vs Bago	-0.034***	0.018*
Mon vs Bago	-0.018	0.019
Rakhine vs Bago	0.016	0.117***
Yangon vs Bago	0.039***	-0.032***
Shan vs Bago	-0.042***	0.020*
Ayeyawady vs Bago	-0.016	0.049***
Nay Pyi Taw vs Bago	-0.046**	0.006
No. of Obs.	36046	35305

Note: The dependent variable in column 1 is economically affected. Households are defined as economically affected if they have experienced a reduction in income or if they had no income at all in the past three months. In column 2 the dependent variable is income poverty. All models include state/region dummies. The base category for income is farm work. The base round is round 1. Asterisks show coefficients significant at p-values * p < 0.10, ** p < 0.05, *** p < 0.01 Source: Author's calculations based on MHWS data.

We examine the relationships between shocks and four different coping strategies commonly observed amidst economic and violent shocks: reducing food, non-food, and health expenditure, borrowing money or purchasing food on credit, selling assets, and what we call coping strategies of last resort, which includes pursuing a risky activity or having children work. In Table 10, we present the associations between reducing expenditures (column 1), borrowing money (column 2), selling assets (column 3), and coping strategies of last resort (column 4) with security, climatic, health, and economic shocks. There is a strong and significant association between experiencing a security, climatic, and health shock and using each coping strategy. Households who experienced a self-reported security shock are 9.7 percentage points more likely to reduce their expenditure, 5.8 percentage points more likely to borrow money or food, 6.5 percentage points more likely to sell assets, and 2.6 percentage points more likely to use a coping strategy of last resort. Climatic shocks had a slightly larger impact in terms of magnitude on the use of all the coping strategies. A death in the household also is associated with a greater use of each coping mechanisms. More specifically, a death in the household increased the likelihood of selling assets by 8.6 percentage points. Households that were economically affected were more likely to deploy each coping mechanism as well.

Households who earn income from self-employment off-farm were less likely to borrow money than farm households, but more likely to use a coping strategy of last resort. Casual wageearning households, compared to farm households, were more likely to use each coping strategy. Compared to farm households, non-farm salaried households were more likely to reduce expenditures, borrow money, and use a coping strategy of last resort. Earning remittances reduced the need for households to sell assets. Households in which the head completed only primary education, households with children under five, and larger households were more likely to deploy every coping mechanism. Finally, rural households were less likely to reduce their expenditure but more likely to borrow money and use a coping strategy of last resort.

	Reduced expenses	Borrowed money	Sold assets	Coping of last resort
Violence in community	0.097***	0.065***	0.058***	0.026***
Climate shock	0.103***	0.079***	0.091***	0.032***
Death in HH	0.034**	0.086***	0.050***	0.012*
Economically affected	0.140***	0.106***	0.104***	0.021***
Non-farm own vs own farm	-0.007	0.003	-0.014**	0.014***
Non-farm salary vs own farm	0.025***	-0.009	0.036***	0.008*
Non-farm wage vs own farm	0.086***	0.061***	0.111***	0.051***
Farm wage vs own farm	0.128***	0.023***	0.161***	0.052***

Table 10. Exploratory regression analysis of characteristics associated with coping mechanisms

Remittances	-0.005	-0.014**	0.011	-0.003
Transfers from friends/family	0.029***	0.007	0.012	0.011***
Primary education only (HH head)	0.052***	0.034***	0.118***	0.030***
Women only household	0.004	-0.015	0.008	-0.002
Child <5yr old in HH	0.023***	0.044***	0.051***	0.006**
HH size	0.006***	0.010***	0.011***	0.006***
Respondent is female	0.087***	0.054***	0.030***	-0.010***
R2 vs R1	-0.042***	-0.020***	-0.043***	-0.001
R3 vs R1	-0.066***	-0.034***	-0.040***	0.001
Rural vs urban	-0.011*	-0.003	0.080***	0.015***
Kachin vs Bago	0.064***	-0.114***	-0.015	0.033***
Kayah vs Bago	0.163***	-0.065***	0.000	0.053***
Kayin vs Bago	-0.005	-0.141***	-0.047***	0.003
Chin vs Bago	0.038*	-0.261***	0.049**	0.052***
Sagaing vs Bago	-0.032***	-0.120***	-0.064***	0.021***
Tanintharyi vs Bago	0.051***	-0.080***	0.019	0.024***
Magway vs Bago	-0.039***	-0.060***	-0.048***	0.004
Mandalay vs Bago	-0.054***	-0.067***	-0.082***	0.010*
Mon vs Bago	-0.003	-0.068***	-0.063***	0.009
Rakhine vs Bago	0.082***	0.022*	0.064***	0.017**
Yangon vs Bago	-0.013	-0.056***	-0.075***	-0.005
Shan vs Bago	-0.010	-0.190***	-0.061***	0.012**
Ayeyawady vs Bago	0.021*	-0.005	0.009	0.015***
Nay Pyi Taw vs Bago	-0.059***	0.021	-0.086***	-0.012
No. of Obs.	48,901	48,901	48,901	48,901

Note: The base category for income is farm work. The base round is round 1. Asterisks show coefficients significant at p-values * p < 0.10, ** p < 0.05, *** p < 0.01

Source: Author's calculations based on MHWS data.

5. DISCUSSION AND CONCLUSION

Vulnerability is increasing in Myanmar. The MHWS survey data for R4, which spans the period of July to December 2022, reveals an increasing frequency of shocks encountered by households, and associated negative consequences for household welfare. Conflict continued to increase over the period, and 23.1 percent of households felt insecure in their communities. Further, crime and violence increased from R3 to R4, both at the community level and among our survey households. In R4, there was a disproportionate increase in urban violence and crime. In R4, climatic shocks were also equally prevalent, specifically because of widespread flooding and drought. While fewer households had members sick and with COVID-19 like symptoms, more households had members sick. Households struggled to access basic services such as internet, electricity,

education, and health. Finally, compared to 2021, households earned less income. Forty-six percent of households reported lower income in R4, compared to 12 months earlier.

Households relied on coping strategies to meet their daily needs. Eighty-three percent of households employed at least one coping strategy to meet their daily needs during the month prior to the survey round. The three most common coping strategies were spending savings, reducing non-food expenditure, and reducing food expenditure. Households also coped by borrowing money, leaving 54.9 percent of the population in debt in October through December 2022. Many households also sold or mortgaged household assets, reducing their quality of life. Finally, 7.0 percent of households sold or mortgaged productive assets, eroding their future income streams.

Income poverty increased to 65.6 of the population in R4 with poverty increasing more in urban than rural areas. Across rounds, increasing poverty is driven primarily by inflation, particularly in rural areas. Though income poverty declined in Chin and Kayah states to 83.6 and 79.2 percent of the population, respectively, they remained poorer than the other states/regions. Moreover, in R4 income poverty levels in Rakhine, Sagaing, Magway, Kayin, Ayeyawady, Kachin, and Mon were all above the national level. After holding nearly steady in R1 through R3, in R4 income poverty in Yangon rose 9.3 percentage points to 52.7 percent. Further, Myanmar's households may be more vulnerable than described in this report. Since internally displaced persons or other households in particularly precarious situations have limited access to phones, they are under sampled.

Regression analysis reveals associations between shocks and the probability of being economically affected and income poor. While security shocks and climatic shocks have a direct impact on reducing household income, they have a smaller association with income poverty. Household coping capacity plays a role in whether households can cope with those shocks or whether they will become income poor. Finally, our descriptive statistics and regression analysis reveals that asset-poor households and agricultural/non-farm causal wage-earning households are among the most vulnerable. They use the greatest number of coping strategies and are more likely to be economically affected and income poor. Remittances were the only factor we found that reduces a household's probability of having lower income, being income poor, and using coping strategies. Therefore, one focus of the international community should be ensuring safe migration out of Myanmar and supporting migrants at their migration destinations. This will help migrants to send remittances back into the country, in turn helping their families in Myanmar cope with shocks.

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APPENDIX TABLES

Table A.1 Percent of households experiencing community and household insecurity in the past three months, by State/Region

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Community															
Feels insecure	44.3	46.9	35.6	49.0	38.1	25.8	11.5	19.6	20.9	22.2	24.1	27.0	23.1	12.8	10.5
Low levels of social trust	31.0	32.2	27.7	40.6	22.4	32.0	15.0	17.6	23.8	28.3	17.5	26.7	23.0	18.6	11.6
Increase in crime	27.0	16.5	6.0	10.3	10.0	6.7	8.6	5.7	12.7	10.6	9.6	23.8	11.0	4.7	9.6
Violence	17.3	9.9	5.9	12.8	13.1	8.8	5.6	5.5	9.6	7.1	9.1	13.1	6.5	2.2	7.0
Household															
Assault/detention	1.0	4.3	0.4	4.0	2.5	1.3	1.0	0.8	0.8	0.4	2.1	0.9	1.1	0.3	0.0
Destruction/appropriation of assets	0.8	11.8	1.4	4.1	2.9	1.5	1.2	1.8	1.1	0.6	0.9	1.0	1.5	0.5	0.3
Theft/robbery	6.8	11.4	4.3	6.0	3.1	2.5	4.0	3.4	4.6	5.2	4.6	8.1	5.6	3.6	4.1
Bribery/forced payments	1.1	0.3	2.2	0.4	1.3	0.7	0.9	0.2	1.3	0.0	1.8	0.7	1.0	0.4	0.3

Table A.2 Percent of urban households experiencing community and household insecurity in the past three months, by State/Region

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	^y Nay Pyi Taw
Community															
Feels insecure	39.1	30.2	27.6	44.0	31.6	16.5	11.7	17.6	24.6	24.9	34.9	32.8	26.8	13.2	17.4
Low levels of social trust	34.1	28.0	30.6	36.7	22.8	23.6	20.9	17.5	27.5	26.7	21.4	30.5	25.0	20.9	14.1
Increase in crime	30.2	15.7	11.9	13.4	20.8	11.0	11.6	13.6	18.8	8.0	18.2	28.9	18.7	8.2	13.6
Violence	15.4	4.4	9.0	8.6	16.3	15.4	6.0	5.6	13.1	8.3	18.1	16.9	10.3	3.8	12.6
Household															
Assault/detention	1.2	9.2	0.0	1.2	2.5	0.0	1.2	0.0	0.6	0.0	4.0	1.2	1.3	0.0	0.0
Destruction/appropriation of assets	s 2.0	15.6	0.0	1.7	1.2	2.9	1.9	1.7	1.0	0.0	1.1	1.2	2.0	0.5	1.2
Theft/robbery	4.7	7.1	5.2	8.9	5.2	2.7	2.4	8.6	9.0	4.0	5.6	9.3	5.0	4.2	7.9
Bribery/forced payments	0.0	0.0	2.2	0.0	2.1	0.0	0.9	0.0	1.5	0.0	1.5	1.0	0.5	0.4	1.0

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	^y Nay Pyi Taw
Community															
Feels insecure	46.7	51.6	37.4	50.3	39.4	28.7	11.5	19.9	19.2	21.3	22.1	15.1	21.5	12.7	7.8
Low levels of social trust	29.6	33.4	27.1	41.6	22.3	34.6	13.8	17.6	22.2	28.9	16.8	18.9	22.2	18.3	10.6
Increase in crime	25.5	16.7	4.7	9.5	7.8	5.4	8.0	4.5	10.1	11.5	7.9	13.3	7.8	4.1	8.2
Violence	18.1	11.5	5.2	13.9	12.5	6.7	5.5	5.5	8.0	6.7	7.4	5.3	4.9	1.9	4.9
Household															
Assault/detention	0.9	2.8	0.5	4.8	2.5	1.7	1.0	0.9	0.8	0.5	1.7	0.3	1.1	0.4	0.0
Destruction/appropriation of assets	0.3	10.7	1.7	4.7	3.2	1.1	1.1	1.8	1.1	0.8	0.9	0.5	1.2	0.5	0.0
Theft/robbery	7.7	12.6	4.1	5.2	2.6	2.5	4.3	2.6	2.7	5.6	4.4	5.6	5.9	3.5	2.6
Bribery/forced payments	1.6	0.4	2.2	0.5	1.1	0.9	0.9	0.2	1.3	0.0	1.9	0.3	1.2	0.4	0.0

Table A.3 Percent of rural households experiencing of community and household insecurity in the past three months, by State/Region

Table A.4 Percent of households experiencing climatic shocks in the past three months, by State/Region

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Negatively affected by any natural or climatic shock	11.6	11.0	15.2	20.2	12.1	9.9	14.5	13.7	10.4	14.4	20.3	5.7	10.9	12.4	4.6
Drought	2.1	6.2	2.0	1.5	3.9	0.6	5.7	6.0	2.0	0.2	6.1	0.0	2.2	0.6	2.2
Flood	6.6	3.0	10.9	7.7	5.8	5.9	4.2	5.5	5.4	7.3	6.1	3.1	6.7	7.6	1.0
Irregular rainfall or temperature	2.5	1.9	1.1	4.7	1.8	1.2	3.2	1.0	2.2	4.0	2.4	1.2	1.8	1.4	0.9
Strong wind	1.3	0.8	3.4	9.1	1.4	4.6	3.1	1.8	1.6	5.2	11.0	1.9	1.0	5.4	1.8

Table A.5 Percent of households economically affected, by State/Region

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyawady	Nay Pyi Taw
Total HH income reduction	52.5	64.9	51.7	50.2	53.6	46.6	47.7	45.3	41.8	44.9	53.6	48.4	40.0	43.3	36.9
No changes in total HH income	28.9	19.8	27.1	41.8	27.4	35.6	29.1	32.2	33.7	36.5	32.9	32.6	32.6	31.1	43.5
Total HH income increased	18.6	15.3	21.2	7.9	19.0	17.9	23.2	22.5	24.5	18.7	13.5	18.9	27.4	25.6	19.6
Number of observations	409	258	393	281	1324	370	1210	974	1533	538	522	1835	1447	1542	288

Table A.6 Most important challenges for wage incomes or salary

	R1	Rural - R1	Urban - R1	R2	Rural-R2	Urban-R2	R3	Rural-R3	Urban-R3	R4	Rural-R4	Urban-R4
No difficulty (%)	-			53.5	53.9	52.9	53.3	52.4	55.0	58.1	56.2	61.5
Reduced working hours / less work (%)	43.4	46.0	38.0	21.8	23.9	17.9	20.6	23.3	15.5	20.7	23.4	15.8
Low/reduced wages (%)	20.9	19.4	23.9	10.8	9.2	13.7	8.2	6.8	10.7	6.8	5.5	9.2
Not safe to travel to work location (%)	14.5	12.5	18.6	7.4	5.9	10.3	6.7	6.0	8.0	4.7	4.1	5.8
Unable to work due to health problems of worker or other household members (%)	18.9	21.5	13.7	3.1	3.8	1.9	4.4	4.6	3.9	2.3	2.7	1.8
Not safe at work location (%)	5.3	5.1	5.5	1.8	2.0	1.3	2.4	2.6	2.1	2.0	2.2	1.8
Not able to reach work location (%)	8.7	9.1	7.9	1.2	1.1	1.3	1.4	1.7	0.9	1.1	1.2	0.8
Late payment/ Wages are not paid (%)	0.1	0.1	0.2	0.0	0.0	0.0	0.7	0.7	0.8	2.4	2.7	1.6
Too many working hours/ pressures at work (%)	0.1	0.1	0.2	0.0	0.0	0.0	0.6	0.4	1.1	0.0	0.0	0.0
Number of observations	4075	2550	1525	4240	2541	1699	4485	2748	1737	4959	3118	1841

Note: There was no option for difficulty and other listed options were multi-select responses so the total sum of percent will be greater than 100 in Round 1.

Table A.7 Most important challenges for crop production

	R1	Rural - R1	Urban - R1	R2	Rural-R2	Urban-R2	R3	Rural-R3	Urban-R3	R4	Rural-R4	Urban-R4
High prices of inputs or mechanization services (%)	34.0	34.0	33.5	28.8	29.0	23.6	29.4	29.5	26.3	26.0	25.7	34.1
No difficulties (%)	15.5	15.0	29.3	29.1	28.7	38.6	24.8	24.7	27.2	29.8	29.9	27.7
Weather problems (%)	20.3	20.6	12.6	14.4	14.4	13.7	16.1	16.3	11.2	21.0	21.1	18.1
High prices of fuel (%)	4.0	4.1	2.3	5.3	5.4	2.8	7.7	7.7	7.9	2.7	2.7	2.1
Pest and disease problems (%)	10.9	11.0	10.0	9.0	9.2	4.9	7.6	7.7	6.6	7.2	7.2	7.6
Access to water problems (%)	5.0	4.9	7.0	4.4	4.4	4.2	3.6	3.6	4.4	2.5	2.6	0.7
Disruption to banking services, access to cash, or loan (%)	1.8	1.9	0.3	2.1	2.2	0.6	3.6	3.6	2.1	3.5	3.5	3.5
Difficulties hiring workers (%)	3.4	3.4	2.5	3.6	3.4	6.1	2.9	2.8	6.1	3.1	3.2	1.9
Unable to get enough inputs or mechanization services (availability) (%)	3.4	3.5	1.6	2.5	2.6	1.8	2.6	2.6	2.5	2.8	2.8	2.1
I cannot reach my own farm (%)	1.6	1.6	1.0	0.9	0.8	3.7	1.0	0.9	1.8	1.3	1.3	2.1
Number of observations	3569	3363	206	3292	3066	226	3168	2989	179	3456	3275	181

Table A.8 Most important challenges for crop sale

	R1	R1-Rural	R1-Urban	R2	R2-Rural	R2-Urban	R3	R3-Rural	R3-Urban	R4	R4-Rural	R4-Urban
no difficulties (%)	47.3	47.2	49.9	62.2	62.6	52.8	64.6	65.0	55.5	79.0	79.2	74.0
low prices for crops (%)	32.0	32.1	30.3	21.9	22.0	19.8	22.2	21.9	30.8	11.7	11.6	13.7
buyers or traders cannot reach the farm or I cannot reach them (%)	7.4	7.5	5.0	6.6	6.5	8.5	6.1	6.3	2.3	3.7	3.8	1.6
not many traders (%)	6.2	6.1	8.3	4.9	4.7	8.6	3.6	3.4	8.4	3.0	2.8	6.4
high price of fuel / high transportation cost (%)	4.3	4.4	2.7	2.8	2.8	3.9	2.1	2.1	2.6	1.8	1.7	3.9
payment problems (%)	2.1	2.1	1.3	0.9	0.9	2.0	1.1	1.1	0.4	0.8	0.8	0.4
markets are closed (%)	0.7	0.6	2.5	0.6	0.4	4.4	0.2	0.2	0.0	0.0	0.0	0.0
bad weather (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Number of observations	3317	3127	190	3175	2964	211	2871	2704	167	2944	2782	162

Table A.9 Most important challenges for farm or non-farm enterprises

	R1	Rural - R1	Urban - R1	R2	Rural-R2	Urban- R2	R3	Rural-R3	Urban- R3	R4	Rural-R4	Urban- R4
No difficulty (%)	25.7	27.3	23.7	39.4	42.3	35.3	39.5	41.1	37.5	40.5	43.7	36.5
High prices of raw materials or supplies (%)	17.4	16.3	18.7	14.0	12.9	15.5	15.1	12.4	18.8	16.7	14.8	19.1
Fewer / no customers interested in buying products (%)	21.3	19.6	23.5	15.9	12.8	20.1	12.2	10.3	14.6	15.0	12.3	18.4
High prices of fuel / high transport costs (%)	7.8	9.3	6.0	10.8	11.4	10.0	9.9	11.0	8.4	6.9	6.4	7.5
Customers cannot reach my business, or I cannot reach customers (%)	16.0	14.5	17.8	6.1	6.8	5.2	8.0	8.9	6.7	7.0	7.9	5.8
Unable to get enough raw materials (%)	4.9	5.5	4.2	5.5	5.7	5.4	5.4	5.8	4.8	4.8	5.4	3.9
People do not pay off their debts or more people buy on credit (%)	0.4	0.4	0.3	0.4	0.5	0.2	4.3	5.5	2.7	4.1	5.1	2.8
Electricity/energy supply problems (%)	1.5	1.5	1.3	2.5	1.7	3.6	1.9	1.3	2.8	2.3	1.7	3.0
Difficulties hiring workers (%)	1.0	1.5	0.5	0.8	0.6	1.1	1.5	1.2	2.0	1.0	0.9	1.1
Disruption to banking services, access to cash or loans (%)	3.9	4.1	3.6	4.3	4.9	3.4	1.3	1.5	1.0	1.9	1.9	1.9
Number of observations	3373	1748	1625	3330	1821	1509	3212	1775	1437	3054	1666	1388

Table A.10 Reduced food expenditure as a coping strategy, by food group

	R2	R3	R4	Rural	Urban
Staple grains, roots and tubers (%)	29.8	29.5	39.1	37.6	43.4
Beans and nuts (%)	26.6	29.9	37.1	37.0	37.5
Vegetables (%)	21.4	20.5	28.6	27.8	30.6
Fruits (%)	26.7	26.3	33.0	31.3	37.7
Meats (%)	84.6	85.2	85.9	86.1	85.3
Eggs (%)	38.5	43.0	52.9	53.9	50.1
Fish (%)	74.2	77.0	78.0	77.6	79.2
Dairy (%)	31.7	37.1	45.5	42.7	53.4
Sugary products (%)	38.5	45.2	56.4	54.1	62.6

Oils, fats and butter (%)	72.9	80.4	84.2	84.3	83.9
Condiments (%)	44.1	51.7	63.3	61.9	67.4
Restaurant meals, takeaway meals (%)	47.8	54.5	57.8	53.2	70.2
Number of observa- tions	5387	5386	6326	4528	1798

Table A.11 Coping mechanisms used to deal with lack of food or money in the past 30 days by rural and urban, MHWS R4

	Rural	Urban
Number of coping mechanisms used	3.43	2.73***
Uses at least one coping mechanism (%)	86.1	77.2***
Spent saving (%)	72.0	64.2***
Reduced non-food expenditures (%)	57.2	55.7
Reduced food expenditures (%)	57.6	54.7**
Borrowed money (%)	40.9	28.9***
Purchased food credit or borrow (%)	40.5	26.0***
Reduced expenditures on health (%)	43.4	38.2***
Mortgaged household assets (%)	22.4	16.6***
Sold household assets (%)	15.0	16.5*
Mortgaged non-ag productive assets/transport (%)	0.8	1.0
Sold non-ag productive assets/transport (%)	3.8	4.1
Mortgaged/sold house (%)	1.3	0.9**
Mortgaged/sold land (%)	0.6	0.1***
Engaged in high-risk activities (%)	5.6	4.4**
Children need to work (under 15) (%)	6.7	4.9***
Migrate entire HH (%)	0.9	1.1
Agricultural households only		
Reduced ag-input expense (ag HH only) (%)	56.3	46.3***
Sold or consumed seed stocks (ag HH only) (%)	23.0	16.6**
Mortgaged/sold ag productive assets (ag HH only) (%)	2.4	0.2***
Number of observations	9223	3701

Number of farming HHs	5460	479	
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Note: Asterisks on rural show statistically significant differences between rural and urban observations; * p < 0.10, ** p < 0.05, *** p < 0.01. Source: Author's calculations based on MHWS data

Table A.12 Use of each coping strategy by the number of coping strategies used in MHWS R4

	1	2	3	4	5	6
Spent saving	59.6	73.2	85.1	92.3	94.7	99.4
Reduced non-food expense	14.1	43.2	67.1	81.9	91.9	97.6
Reduced food expense	9.3	37.7	71.1	87.6	96.3	99.4
Borrowed money	6.2	20.3	30.0	44.6	65.5	86.4
Purchased food credit or borrow	7.6	18.5	29.1	43.8	63.3	83.6
Reduced expense on health	3.9	13.7	34.1	53.8	72.8	85.8
Mortgaged household assets/goods	5.6	12.9	16.4	26.3	33.4	54.1
Sold household assets/goods	1.5	5.2	9.7	15.9	24.3	45.9
Mortgaged non-agri productive assets or means of transport	0.1	0.0	0.5	1.1	0.9	3.3
Sold non-agri productive assets or means of transport	0.3	1.0	2.3	4.0	6.6	11.9
Mortgaged/sold house	0.2	0.3	0.7	0.9	1.4	3.9
Mortgaged/sold land	0.2	0.1	0.4	0.4	0.5	1.5
Engaged in high risk activities	0.6	1.5	2.5	4.0	5.6	18.8
Children need to work (under 15)	2.4	2.1	2.7	3.9	4.6	11.3
Migrate entire HH	0.2	0.3	0.7	0.6	1.2	3.1
Reduced agri-input expense (ag HH only)	26.8	41.4	55.2	71.9	82.8	89.2
Sold or consumed seed stocks (ag HH only)	7.0	13.1	14.8	19.7	29.7	55.4
Mortgaged/sold ag productive assets (ag HH only)	0.2	0.8	1.4	1.5	1.8	5.3

	Not difficult	Somewhat difficult	Very difficult
Spent saving	73.1	86.3	93.9
Reduced non-food expense	47.7	70.0	82.5
Reduced food expense	44.2	72.7	87.2
Borrowed money	37.2	60.0	81.2
Purchased food credit or borrow	30.0	54.8	75.8
Reduced expense on health	30.8	52.0	68.1
Mortgaged household assets/goods	20.7	31.5	44.3
Sold household assets/goods	10.0	20.9	37.7
Mortgaged non-agri productive assets or means of transport	0.3	1.3	3.5
Sold non-agri productive assets or means of transport	2.3	5.7	10.4
Mortgaged/sold house	0.9	1.0	3.5
Mortgaged/sold land	0.3	0.6	1.2
Engaged in high risk activities	3.3	6.0	13.5
Children need to work (under 15)	2.2	5.7	7.4
Migrate entire HH	1.1	0.8	2.1
Reduced agri-input expense (ag HH only)	49.1	68.3	75.5
Sold or consumed seed stocks (ag HH only)	17.7	28.4	40.6
Mortgaged/sold ag productive assets (ag HH only)	1.7	2.4	2.8

Table A.13 Coping mechanisms used by the level of difficulty to pay back money borrowed for MHWS R4

Table A.14 Summary of coping strategies employed, by State/Region in percentage of households in MHWS R4

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanin- tharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeya- wady	Nay Pyi Taw
Number of coping mechanisms used	3.4	4.3	3.4	3.7	3.3	3.7	3.4	3.0	2.9	3.3	3.8	2.9	3.2	3.5	2.6
Uses at least one coping mechanism (%)	87.1	92.9	86.3	90.0	84.9	88.1	86.0	83.0	80.8	85.8	87.8	78.5	83.2	86.4	72.3
Spent saving (%)	74.7	91.1	79.3	72.4	74.4	78.0	72.1	68.0	66.3	70.6	74.0	62.1	68.4	72.0	60.4
Reduced non-food expenditures (%)	66.5	78.4	60.7	61.4	57.2	58.8	57.9	54.5	52.7	60.4	62.9	57.0	54.3	56.3	44.9
Reduced food expenditures (%)	65.5	79.9	62.9	67.9	56.4	66.4	56.6	51.1	51.3	61.2	64.3	56.5	51.8	60.6	43.3
Borrowed money (%)	38.2	40.2	34.2	48.4	34.9	47.4	41.8	37.0	34.4	37.8	43.8	31.7	38.1	43.0	24.7
Purchased food credit or borrow (%)	35.0	41.1	40.3	55.9	34.0	52.1	41.9	36.6	31.4	36.1	49.0	26.6	32.5	43.7	28.5
Reduced expenditures on health (%)	46.3	67.6	45.3	53.3	42.0	50.4	41.5	37.6	34.5	42.9	54.0	40.7	42.2	42.2	37.1
Mortgaged household assets (%)	14.5	19.8	11.6	1.4	12.0	17.4	31.5	20.2	16.2	16.9	33.6	19.5	8.3	32.9	25.8
Sold household assets (%)	16.1	30.7	15.1	9.2	14.3	18.8	16.9	12.8	12.4	17.3	26.8	17.2	11.2	13.6	16.6
Mortgaged non-ag productive assets/transport (%)	0.3	2.3	1.7	0.3	0.9	0.8	0.4	0.9	0.9	0.9	0.3	0.7	0.6	2.0	0.5
Sold non-ag productive assets/transport (%)	4.0	8.7	4.2	6.1	3.7	2.5	3.8	3.2	4.5	6.9	2.8	3.7	2.2	4.7	4.9
Mortgaged/sold house (%)	1.6	2.5	2.6	1.6	1.0	2.4	0.9	1.8	1.0	1.6	0.8	1.0	1.1	1.2	0.0
Mortgaged/sold land (%)	0.9	0.4	0.7	0.2	0.5	0.5	0.7	0.9	0.5	0.3	0.7	0.1	0.5	0.4	0.7
Engaged in high-risk activities (%)	8.1	13.5	6.6	12.9	5.4	6.0	5.7	3.3	5.4	6.5	6.9	3.6	4.4	6.0	3.6
Children need to work (under 15) (%)	10.6	8.7	3.7	11.5	8.6	8.4	7.9	9.2	6.1	4.9	1.9	3.7	6.4	5.9	1.9
Migrate entire HH (%)	1.0	4.9	1.4	3.5	1.0	1.8	1.1	0.5	0.7	0.4	1.4	1.6	1.3	0.0	0.3
Reduced ag-input expense (ag HH only) (%)	60.0	69.3	50.4	55.1	55.7	48.5	63.4	44.8	52.0	59.5	64.3	55.6	57.7	55.2	57.3
Sold or consumed seed stocks (ag HH only) (%)	23.6	34.6	30.8	23.7	27.8	17.7	18.4	25.8	25.6	19.3	24.7	20.1	21.4	15.3	20.6
Mortgaged/sold ag productive assets (ag HH only) (%)	3.8	1.0	3.6	4.7	2.5	0.6	2.5	2.1	2.4	0.9	1.0	0.6	1.7	1.4	0.4
Number of observations	409	258	393	281	1324	370	1210	974	1533	538	522	1835	1447	1542	288

Table A.15 . Income-based poverty headcounts by asset class and round

	R1	R2	R3	R4	Percentage change R1-R4	Percentage change R3-R4
asset poor (0-3 assets)	65.5	72.3	77.4	79.9	22.0***	3.2**
asset low (4-6 assets)	49.9	56.1	60.7	63.9	28.0***	5.3***
asset rich (7-10 assets)	33.8	39.4	41.9	46.5	37.6***	10.8***

Note: asterisks denote difference from the previous MHWS round and show significance at p-values; * p < 0.10, ** p < 0.05, *** p < 0.01. Source: Author's calculations based on MHWS data.

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