

Monitoring the Agri-food System in Myanmar

The rising costs of diets and declining purchasing power of casual wage laborers: June 2020 - February 2023

We assess changes in food prices and purchasing power of casual wage laborers based on large-scale surveys of food vendors (fielded from June 2020 until February 2023) and households in rural and urban areas and in all state/regions of Myanmar.

Key findings

- Over the full period (June 2020 February 2023), the cost of the healthy diet rose by 72 percent and the common diet by 82 percent.
- Prices for rice the major staple– increased by 62 percent between March 2022 and February 2023.
- The costs of a common and healthy diet increased especially over the year 2022, by 50 and 51 percent respectively between Q1 of 2022 and Q4 of 2022.
- Diet costs increased more in rural areas compared to urban areas and more in the Dry Zone and coastal areas – which are more affected by conflicts – compared to the national average.
- The value of daily wages of construction and agricultural wage laborers relative to common and healthy diet costs declined by about 25 and 28 percent over the year 2022.
- Food costs are outpacing wages, making food increasingly unaffordable for wage earners who are among the most vulnerable household groups in Myanmar, particularly in rural areas.

Recommended actions

- Food should be available at low costs to avoid food insecurity and nutrition problems in the country; assuring a well-functioning agri-food system should therefore be a priority for all stakeholders.
- Casual wage workers are among the poorest and their situation is worsening. They should therefore be targeted in social safety net programs.
- It is important to closely monitor food prices and the wages of the poor they are good proxies for purchasing power and welfare and can be measured at high frequency.







Introduction

This Research Note presents the results of 21 rounds of interviews with food vendors in rural and urban areas throughout Myanmar conducted between June 2020 and February 2023. Interviews were collected in three sets of ongoing phone surveys with food vendors conducted by IFPRI in Myanmar. The purpose of the surveys is to provide data and insights on Myanmar's food markets to interested stakeholders to foster better understanding of the effects of shocks related to COVID-19 and the ongoing political crisis. In particular, the focus of the note is on changes in food prices, their impact on the cost of common and healthy diets, and the purchasing power of casual wages.

Data and descriptive statistics

MAPSA collects food prices in Myanmar using three sets of ongoing phone surveys (Table 1). First, the COVID-19 food vendor survey (C19-FV) is MAPSA's longest running food vendor survey in Myanmar and was originally designed to monitor shocks to food markets in the early stages of the COVID-19 crisis.¹ Though vendors were selected throughout the country, the sample is not nationally representative and has a focus on rural areas. Food vendors were selected based on knowledge about food prices and their numeracy, as well as being well informed on food markets overall and having regular contact with food traders. Fourteen rounds of the C19-FV have been completed between June 2020 and February 2023.

Second, the Myanmar Household Welfare Survey (MHWS) is a large (minimum 12,000 households per round) panel survey conducted by phone. To date, four rounds have been completed covering the period from December 2021 to December 2022. The survey is representative at the national, urban/rural, and the state/region levels and was designed to monitor household and individual welfare, farm and non-farm economic activities, and migration.² MHWS respondents who report having household businesses that sell food (mobile or fixed food vendors and food traders, brokers or wholesalers) are selected to participate in a food vendor module which includes questions about food prices. In this report we exclude information from traders, brokers, and wholesalers who do not primarily sell to consumers. While the sub-sample of MHWS food vendors has wide coverage, it is not statistically representative of the nation.

Finally, for more frequent and detailed food price monitoring, IFPRI conducts a survey of MHWS food vendors between MHWS survey rounds (MHWS-FV). Three rounds have been completed between March 2022 and February 2023.

In all surveys, vendors are asked to report prices for the cheapest common or available variety of ten types of foods: rice, potatoes, pulses, chicken, fresh fish, dried fish, green leafy vegetables, onions, bananas, and oils.³ Additionally, the C19-FV and MHWS-FV surveys collect pork prices, and beginning in 2022, egg and tomato prices.

The C19-FV sample has important differences compared to the MHWS and MHWS-FV samples (Table 1 and Table 2). In the most recent rounds, 84 percent of C19-FV vendors are located in rural areas compared to 66 and 68 percent in the MHWS and MHWS-FV. Furthermore, the C19-FV sample only includes vendors who sell from a fixed location, whereas about 20 percent of MHWS and MHWS-FV respondents are mobile vendors. Nonetheless, pooling the data from the three surveys is useful to provide an overview of trends in food prices, as long as care is taken to not make direct comparisons between data from different samples.

¹ For more information on the C19_FV refer to the following reference: Minten, Bart; Oo, Than Zaw; Headey, Derek D.; Lambrecht, Isabel; and Goudet, Sophie. 2020. Monitoring the impacts of COVID-19 in Myanmar: Food vendors - June and July 2020 survey round. Myanmar SSP Policy Note 30. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/p15738coll2.134015

² For more information on the MHWS refer to the following reference: Myanmar Agriculture Policy Support Activity (MAPSA). 2022. 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). https://doi.org/10.2499/p15738coll2.135837

³ In the MHWS-FV survey and beginning in 2022 for the C19-FV survey, vendors are asked to report up to 5 common varieties of rice and 6 pulses. For this analysis, we use the price of the cheapest variety reported.

Table 1: Fo	od vendor	surveys b	y round a	nd location
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		Time remain	Hills		Dry Zone		Delta		Coastal		Total
Survey	Rouna	nme range	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Total
C19-FV	1	Jun-Jul '20	4	39	13	51	16	40	1	11	175
	2	Aug '20	5	54	10	53	13	44	1	11	191
	3	Sep '20	7	61	12	62	15	48	2	9	216
	4	Oct '20	5	61	13	60	13	50	2	10	214
	5	Nov '20	6	56	13	64	15	52	2	9	217
	6	Dec '20	6	60	11	61	15	51	1	8	213
	7	May '21	6	53	11	61	13	48	1	6	199
	8	Jul '21	5	45	11	65	12	51	1	7	197
	9	Sep '21	5	47	11	61	9	50	1	7	191
	10	Dec '21	5	47	11	60	11	46	1	6	187
	11	Feb '22	5	43	12	59	12	49	1	6	187
	12	May '22	5	42	10	58	13	48	1	6	183
	13	Aug '22	5	37	9	55	12	42	1	6	167
	14	Feb '23	5	39	10	56	12	46	1	6	175
MHWS	1	Dec '21/Feb '22	43	53	54	120	113	184	18	28	613
	2	Apr-Jun '22	37	63	57	121	117	180	16	34	625
	3	Jul-Aug '22	33	54	53	128	132	220	19	45	684
	4	Oct-Dec '22	35	52	67	129	92	191	10	32	608
MHWS- FV	1	Mar '22	26	42	34	91	73	127	9	20	422
	2	Sep '22	35	54	53	133	104	210	16	40	645
	3	Feb '23	39	63	74	154	100	222	13	40	705

Source: C19-FV, MHWS-FV, MHWS phone surveys

Note: Hills and Mountains (Chin, Kachin, Kayah, Kayin, Shan); Dry Zone (Mandalay, Magwe, Nay Pyi Taw, Sagaing); Delta (Ayeyarwady, Bago, Mon, Yangon); Coastal (Rakhine, Tanintharyi).

Table 2: Profile of food vendors in the most recent rounds

	Rural (%)	Female (%)	Age (years)	Fixed vendor (%)	Ν
C19-FV	84	65	45	100	176
MHWS	66	61	40	80	608
MHWS-FV	68	67	41	79	705

Source: C19-FV (Round 14), MHWS-FV (Round 3), MHWS (Round 4) phone surveys

Figure 1 presents median food prices between June 2020 and February 2023 and Table 3 presents annual changes in food prices. Overall, food prices remained stable in the first year of the COVID-19 crisis but rose considerably in the year following the February 2021 coup. Prices of many foods skyrocketed in 2022 as Myanmar faced a combination of factors including the global food and fuel crises accompanying conflict in Ukraine, the depreciation of the kyat, a change in domestic food policies, and increasing insecurity.

To avoid the influence of seasonality and sampling, changes in food prices are calculated for approximately one-year increments within a given survey (Table 3). Total changes between the first and final round of the C19-FV survey are also presented, though they may include seasonal effects. The largest price increases for vegetable oils, potatoes, onions, and dried fish occurred in the year prior to August 2022, whereas the largest price increases for rice, most protein-rich foods, vegetables, and bananas occurred in the year prior to the end of 2022 and beginning of 2023. Over the full period (June 2020 and February 2023), prices of rice, potatoes, oils, and onions more than doubled, while prices of pulses, chicken, pork, and leafy greens increased by at least 40 percent. Some foods with large spikes in 2022 (oils, onions, tomatoes) began to decline by the beginning of 2023, while prices of other foods (chicken, pork, rice) continue an upward trend.



Figure 1: Trends in median food prices (kyat per kilogram), June 2020-February 2023





Panel A: Oil and staple foods







Source: C19-FV (Round 1-14), MHWS-FV (Round 1-3), MHWS (Round 1-4) phone surveys

 Table 3: Annual and total percentage changes in median food prices, June 2020-February

 2023

	C19-FV	C19-FV	C19-FV	C19-FV	MHWS	C19-FV	MHWS-FV	C19-FV
	Jun/Jul 20 - Jul 21	Dec 20 - Dec 21	May 21 - May 22	Jul 21 - Aug 22	Dec 21/Feb 22 - Oct 22/Dec 22	Feb 22 - Feb 23	Mar 22 - Feb 23	Jun/Jul 20 - Feb 23
Rice	25	7	7	33	43	79	62	108
Potatoes	10	67	140	155	40	40	27	180
Oil	65	92	87	189	60	27	-13	230
Pulses	0	33	25	44	50	33	28	60
Eggs	-	-	-	-	-	67	67	-
Chicken	0	0	29	29	43	43	50	43
Pork	25	25	20	20	-	40	25	75
Fresh Fish	-10	11	33	33	20	62	20	30
Dried Fish	0	20	25	50	30	0	18	25
Leafy Greens	10	10	0	0	20	10	81 [*]	10
Onions	-25	-20	140	400	400	150	150	212
Tomatoes	-	-	-	-	-	100	186	-
Bananas	13	0	-5	11	25	43	50	25

Source: C19-FV (Round 1-14), MHWS-FV (Round 1-3), MHWS (Round 1-4) phone surveys

Note: Annual periods are approximate. Total changes between the first and final round of the C19-FV survey may include seasonal effects. * Leafy green prices are clustered around two or three points making medians sensitive to small changes. The percentage change in mean leafy green prices for this period is 23 percent.

Healthy and common diet food baskets

Changes in the prices of individual food items are not necessarily informative for understanding changing food costs faced by households. Large changes in the price of an inexpensive food or a food consumed in small quantities may have far less of an impact on overall food costs than smaller changes in the price of a more expensive food or a food consumed in large quantities. Thus, changes in food costs are calculated by comparing the cost of a fixed basket of foods between periods. In this analysis, we monitor the evolving cost of two food baskets containing the foods listed in the vendor surveys.

- Common diet basket: average regional quantities consumed of foods representative of vendor survey foods as reported by households surveyed in the 2015 Myanmar Poverty and Living Conditions Survey (MPLCS)
- 2. **Healthy diet basket**: average regional quantities consumed of the same foods aligned with a recommended healthy diet⁴

The healthy diet basket is calculated using a variation of the Cost of a Healthy Diet (CoHD) indicator reported by the FAO.⁵ The CoHD method pairs food group level recommendations for a healthy diet with the prices of the cheapest foods in each food group. To take full advantage of all information collected in the vendor surveys, rather than the cheapest foods, we instead follow a version of the CoHD that incorporates food preferences and uses all foods.⁶ In food groups with multiple foods (staples, protein-rich foods, and vegetables), we weight prices according to the regional shares consumed of each item relative to the food group (reported by 2015 MPLCS households), while aligning the total food group quantity with the healthy diet recommendation. Both

⁴ Healthy diet guidelines are adapted for an adult woman from the Myanmar food based dietary guidelines for pregnant and lactating women applied to the foods in the vendor surveys in proportions reported in the 2015 MPLCS. Zaw, H.M.M., C.M Thar, and W.T.K. Lee. 2022b. Myanmar food-based dietary guidelines for pregnant and lactating women. Nay Pi Taw, Myanmar: FAO.

⁵ Herforth, A., Y. Bai, A. Venkat, K. Mahrt, A. Ebel, W.A. Masters. 2020. Cost and Affordability of Healthy Diets Across and within Countries. Background Paper for the State of Food Security and Nutrition in the World 2020. Rome: FAO; FAO, IFAD, UNICEF, WFP and WHO. 2022. The State of Food Security and Nutrition in the World 2022. Repurposing food and agricultural policies to make healthy diets more affordable. Rome, FAO.

⁶ Mahrt, K., D. Mather, A. Herforth, and D. Headey. 2019. "Household Dietary Patterns and the Cost of a Nutritious Diet in Myanmar." IFPRI Discussion Paper 1854. Washington, DC: International Food Policy Research Institute; Herforth, A., Y. Bai, A. Venkat, K. Mahrt, A. Ebel, W.A. Masters. 2020. Cost and Affordability of Healthy Diets Across and within Countries. Background Paper for the State of Food Security and Nutrition in the World 2020. Rome: FAO.

baskets are specified in terms of calories and attain the energy needs of a representative moderately active adult woman in Myanmar (2,195 calories).⁷

For long term trends we use the ten basic food items collected in all surveys (rice, potatoes, pulses, chicken, fresh fish, dried fish, green leafy vegetables, onions, bananas, and oils) and for recent more detailed analysis we also include the expanded set of items which also includes pork, eggs, and tomatoes. Table 4 summarizes the common diet and healthy diet food baskets with the basic and expanded sets of foods.

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		Basic items		Expanded items		
Food group	Sub-food group	Common diet calories	Healthy diet calories	Common diet calories	Healthy diet calories	
Starchy staples:	Rice	1,534	1,206	1,534	1,206	
	Potato	24	19	24	19	
Protein rich foods	Pulses	86	145	86	145	
Animal Source Foods:	Eggs	-	-	23	39	
	Chicken	101	172	53	91	
	Pork	-	-	33	56	
	Fish	37	63	32	54	
	Dried fish	20	35	17	30	
Vegetables	Dark leafy greens	28	58	21	44	
Ŭ	Onions	29	62	22	47	
	Tomatoes	-	-	14	29	
Fruit	Bananas	36	180	36	180	
Oils		300	255	300	255	
Total		2.195	2.195	2.195	2,195	

Table 4: Common and healthy diet food baskets (calories)

Source: Authors' calculations based on the Myanmar's food based dietary guidelines for pregnant and lactating women. Note: Analysis is based on baskets specified by agro-ecological zones.

Figure 2 depicts the healthy and common diet baskets in terms of calories. The common diet is dominated by staples and oils with merely 15 percent of total calories coming from nutrient-dense foods (protein-rich foods, vegetables, and fruit). In contrast, more than twice the share of total calories in the healthy diet basket (33 percent) comes from nutrient-dense foods.

Figure 2: Composition of the healthy and common diet baskets (calories)



Source: Authors' calculations based on the Myanmar's food based dietary guidelines for pregnant and lactating women. Note: Analysis is based on baskets specified by agro-ecological zones.

⁷ The energy needs of the representative adult woman are very close to the average per capita energy needs in Myanmar (2,167 calories).

Presenting dietary costs based on the common diet alongside the healthy diet allows us to compare changes in costs that households face with typical consumption patterns compared to the cost of acquiring a balanced and healthy diet. We evaluate the cost of these two <u>stylized</u> diets using the limited items in the vendor surveys with the aim of tracking changes in healthy diet costs, rather than providing a nuanced estimate of costs faced by households of varying compositions.

Diet costs between June 2020 and February 2023

We begin by presenting trends in the healthy and common diet using the basic food list (excluding eggs, pork, and tomatoes) over the full range of the surveys (Figure 3) along with annual and total changes in diet costs (Table 5). Reporting changes in costs by approximately one year increments, avoids the influence of seasonality on prices. Diet costs increased little in the first year of the pandemic and began to rise in the year following the onset of political turmoil. The largest annual changes in diet costs occurred in the year prior to August 2022 and in the year prior to February 2023 (between 59 and 64 percent). Over the full period (June 2020-February 2023), the cost of the healthy diet rose by 72 percent and the common diet by 82 percent.

Despite considerable differences in the composition of the two baskets, diet costs follow a remarkably similar path, with the common diet increasing by a similar or greater degree than the healthy diet in all periods presented in Table 5. This is due to the greater influence of staple foods and oils in the common basket compared to the healthy diet basket (Figure 2), which over the full period increased at a greater pace than the other foods, with the exception of onions (Table 3). Though the gap between the two diets narrowed, the cost of the healthy diet remained significantly higher than the common diet – 52 percent more in June 2020 (1,331 kyat versus 887 kyat) compared to 43 percent more in February 2023 (2,270 kyat versus 1,583 kyat).





Source: C19-FV (Round 1-14), MHWS-FV (Round 1-3), MHWS (Round 1-4) phone surveys Note: Diet costs are estimated using the basic food list which does not include eggs, pork, or tomatoes.

Table 5: Annual changes in healthy and common diet costs, June 2020-February 2023

Survey	Period	Healthy Diet	Common Diet
C19-FV	Jun/Jul 20 - Jul 21	4	7
C19-FV	Dec 20 - Dec 21	20	22
C19-FV	May 21 - May 22	19	23
C19-FV	Jul 21 - Aug 22	59	64
MHWS	Dec 21/Feb 22 - Oct 22/Dec 22	51	50
C19-FV	Feb 22 - Feb 23	63	62
MHWS-FV	Mar 22 - Feb 23	36	35
C19-FV	Jun/Jul 20 - Feb 23	72	82

Source: C19-FV (Round 1-14), MHWS-FV (Round 1-3), MHWS (Round 1-4) phone surveys

Note: Diet costs are estimated using the basic food list which does not include eggs, pork, or tomatoes. Annual periods are approximate. Total changes between the first and final round of the C19-FV survey may include seasonal effects.

Figure 4 illustrates the evolving food group cost shares of each diet. In both the common and healthy diet, protein-rich foods comprise the largest cost share followed by staples. However, staples are nearly double the cost share in the common diet compared to the healthy diet. By February 2023, the costs of staples, vegetables, and oils, accounted for a larger share of both diet's costs compared to June 2020.



Figure 4: Diet costs by food group (percentage shares), June 2020 – February 2023

Source: C19-FV (Round 1-14), MHWS-FV (Round 1-3), MHWS (Round 1-4) phone surveys Note: X-axis not to scale. Diet costs are estimated using the basic food list which does not include eggs, pork, or tomatoes.

Diet costs between February 2022 and February 2023

In this section, we focus on the C19-FV and the MHWS-FV surveys conducted in the past year and use the more detailed expanded food list which additionally includes eggs, pork, and tomatoes. Figure 5 shows diet costs between February 2022 and February 2023 in urban and rural areas and by agro-ecological zone. Across areas, the cost of the healthy diet varies more compared to the common diet. This is particularly noticeable between agro-ecological zone, where diet costs are influenced both by regional price differences and regionality in the healthy diet and common diet baskets.





Figures 6, 7, and 8 present changes in diet costs over the past year using data from the MHWS-FV which has a larger sample size and better urban coverage compared to the C19-FV (Table 1). It is important to note, however, that the first MHWS-FV survey was implemented in March 2022 after the spike in vegetable oil prices had already begun at the beginning of 2022. Median oil prices declined by 13 percent between March 2022 and February 2023 (Table 3). Furthermore, the MHWS-FV covers an 11-month period rather than a full year. For these reasons, changes in diet costs over the period March 2022-February 2023 are smaller than if we examined the period beginning in February 2022. Between March 2022 and February 2023, the cost of the healthy diet increased by 45 percent compared to the common diet which increased by 40 percent. Diet costs increased more in rural areas compared to urban areas and more in the Dry Zone and coastal areas that are more affected by conflicts compared to the national average.



Figure 6: Percentage change in diet costs by area, March 2022-February 2023

Source: MHWS-FV (Round 1,2)

Note: Diet costs are estimated using the expanded food list, which includes eggs, pork, and tomatoes.

Source: C19-FV (Round 11-14), MHWS-FV (Round 1-3) Note: Diet costs are estimated using the expanded food list, which includes eggs, pork, and tomatoes.

Change in diets costs are driven by the staple, protein-rich food, and vegetable food groups (Figure 7) with protein-rich foods and vegetables dominating rises in healthy diet costs and staples dominating the rise in the cost of the common diet. Increased staple costs have a larger impact on rural diets than those in urban areas.⁸ The large increase in Dry Zone healthy diet costs is the result of a particularly large increase in the cost of the vegetable food group. Oil prices have virtually no impact on changing diet costs in this period. The relatively smaller increase in the common diet compared to the healthy diet is the opposite of what we see in previous periods (Table 5) and is a reflection of declining vegetable oil prices beginning toward the end of 2022.









Source: MHWS-FV (Round 1,2)

Note: Diet costs are estimated using the expanded food list, which includes eggs, pork, and tomatoes.

Figure 8 shows how average monthly changes in diet costs followed far different trajectories from March through September 2022 compared to September 2022 through February 2023. In the first 6 months, the cost of all food groups rose, particularly vegetables, and the cost of both diets increased an average of about 8 percent per month. In contrast, in the following 5 months only the cost of staples protein-rich foods increased, and the cost of diets declined by less than 1 percent on average per month.

⁸ This result is likely the result the MPLCS undercounting staple foods consumed away from home, which is more prevalent in urban areas.



Figure 8: Average monthly contribution to change in healthy and common diet costs by food group, March 2022-February 2023

Note: Diet costs are estimated using the expanded food list, which includes eggs, pork, and tomatoes.

Finally, Figure 9 illustrates the contribution to changes in food group costs by items within each food group. Food groups are composed of multiple items, staples, protein-rich foods, and vegetables. These are also the food groups driving increases in diet costs. Contributions of each food item are influenced both by changes in food prices (Table 3) as well as the item's basket share (Table 4). Within these food groups, the biggest drivers of changes in diet costs are rice, chicken, fresh fish, eggs, tomatoes, and onions.







Healthy diet adjusted wages

Finally, we consider the buying power of poor and vulnerable populations represented by the ratio of median wages to healthy diet costs –the number of healthy diet baskets a single worker can purchase with a day's wage (Figure 10). The MHWS asks respondents to report daily wages in their communities for male and female construction and agricultural workers. Between the December 2021-February 2022 round and the October 2022-December 2022 round, urban construction wages increased by 6 percent and rural agricultural wages increased by 12 percent. However, during the same period, urban and rural healthy diet costs rose by 41 and 55 percent, and urban and rural common diet costs rose by 40 and 54 percent, respectively. Consequently, the value of daily

construction and agricultural wages relative to healthy diet costs declined by 25 and 28 percent and relative to common diet costs declined by 24 and 27 percent, respectively (Figure 10). In other words, food costs are outpacing wages, making food increasingly unaffordable for wage earners who are among the most vulnerable household groups in Myanmar, particularly in rural areas.





Source: MHWS-FV (Round 1-4) phone surveys

Note: The figure shows rural agricultural wages and urban construction wages.

Diet adjusted wages are the ratio of daily wage rates to the cost of the urban and rural healthy diet (basic food list), respectively.

The MHWS provides evidence that households reduce food expenditures to cope with diminishing resources. In the October 2022-December 2022 survey round, 50 percent of households report either reducing food expenditures in the past 30 days or having already exhausted this option. Among all households, 44 percent reported decreased expenditures on meat, fish, or eggs, and 42 percent reduced expenditure on oils. A smaller share report decreased expenditure on staples (20 percent), pulses/nuts (19 percent), vegetables (17 percent), or fruits (17 percent). These numbers are all higher in households whose primary income source is wages, with 61 percent reporting reduced food expenditure in the past 30 days, 55 percent decreased expenditure on meat, fish or eggs, and 54 percent decreased expenditure on oils. Any decline in consumption of protein-rich foods, vegetables, or fruits in particularly concerning given evidence from the 2015 MPLCS (the common diet) that these food groups were already substantially under-consumed (Figure 2).

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