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Monitoring the Agri-food System in Myanmar

Rice Millers – August 2022 survey round

In August 2022, we surveyed 467 active rice millers from 13 states and regions across Myanmar to learn more about the impacts of the current political and COVID-19 crises. This report presents the key results and analysis from those interviews.

Key findings

- Electricity and fuel disruptions were cited as the most significant disruption by 91 percent of millers in August 2022. Rising fuel prices and access issues afflicted smaller, local mills while larger mills were more affected by interruptions in electricity supplies.
- Continuing a trend from March 2022, banking and credit disruptions were less prevalent in August. Lending and borrowing show only minor changes relative to 2021.
- Average milling throughput declined by more than 20 percent compared to a year prior, and stored volumes of both paddy and rice showed similar declines.
- Rice prices and milling margins increased sharply by about 40 percent compared to last year, driven by rising global prices, and, most importantly, by a rapid devaluation of Myanmar kyat. In USD terms, the price increases are more modest and closer to global changes. At the parallel (unofficial) exchange rate, prices have declined.
- Prices of byproducts (in kyats) have also increased sharply from the last year, especially for rice bran which is important to the animal feed industry.

Looking forward

- Looking forward to the 2022 monsoon harvest and marketing season, over half of all millers expect a decline in paddy production of at least 10 percent in their townships and an additional 22 percent of millers expect a smaller decline. Just 3 percent expect their local paddy production to be higher in 2022 monsoon than in 2021.
- Changes in input use (e.g., a decline in fertilizer application) are far and away the most cited reason for lower expected paddy production. Half of millers said that less favorable rainfall patterns compared to 2021 are also a factor in lower paddy production.
- On top of lower reported throughput in August 2022 and lower storage volumes, a decline in monsoon paddy production would have large implications for both rural and urban households. Lower supply coupled with the continued and widespread disruptions to utilities and transport, could drive prices even higher. At the same time, unpredictable foreign exchange and export policies could make it difficult for value chain actors to anticipate supply and demand conditions, resulting in higher price volatility.

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Introduction

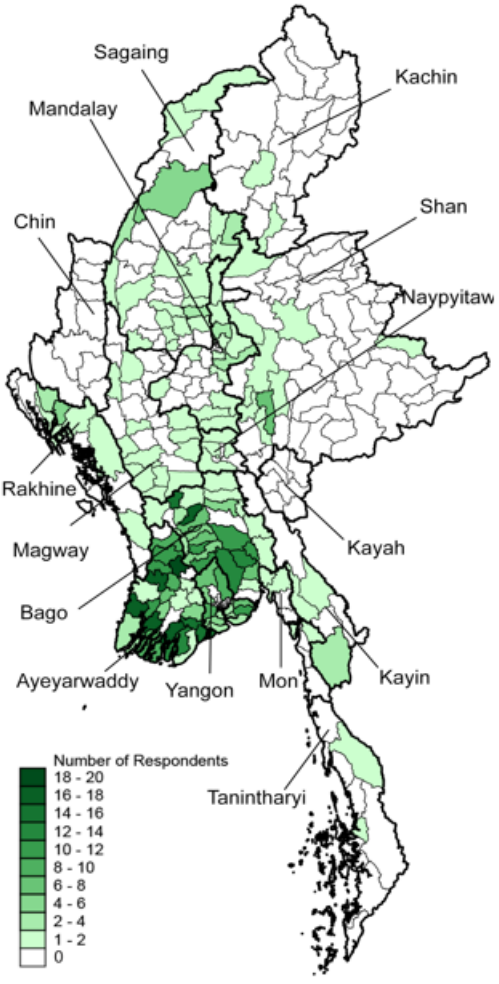
Rice mills are the most important link between farmers and consumers in Myanmar's rice value chain. Mills buy paddy from farmers and process it into rice, and hence, any severe disruptions to rice mills will affect both rural rice-producing households and urban consumers.

Since June 2020, we have monitored rice millers in Myanmar, and this is the 12th Research Note in the series. In this Research Note, we present evidence from interviews conducted in August 2022 with 587 rice millers in 138 townships from 13 states. We examine (i) disruptions caused by the current political and COVID-19 crises; (ii) impacts resulting from transportation restrictions and recent changes in foreign currency regulations; (iii) changes in business operations including throughput, employment, paddy stocks, and credit offered/borrowed; (iv) paddy, rice, and byproduct price changes relative to one year prior; and (vi) details on transportation disruptions.

Rice mill sample

From August 15 to August 25, 587 mills were interviewed via telephone, of which 467 (80 percent) were active in the 30 days prior to the interviews and 120 (20 percent) were inactive (Table 1). The number of inactive mills has increased compared to March by 10 percent mainly due to normal seasonality (Table 1), but inactive millers also cited difficulty in purchasing paddy and safety issues during crisis. COVID-19 disruptions did not have a large impact on mill closures in August. Similar to March, we interviewed traditional small and micro-mills locally known as *Halar Sat* and *Ngar Pone Sat* (16 percent of the sample). These mills play an important role in remote rural communities providing milling services on commissions mostly for household consumption despite having much lower milling capacity. The subsample of medium/large millers (84 percent of sample) is more urban, better educated, more experienced, more likely to keep written records and more engaged in paddy purchasing and rice selling in a week (Table 1).

Figure 1. Rice miller sample by township



Source: Miller survey–August 2022 survey round

Table 1. Miller characteristics

	All	Small/Micro	Medium/Large
Total number	587	93	494
Active in Aug 2022, number	467	73	394
Inactive in Aug 2022, number	120	20	100
If not active, main reasons not active, % of inactive			
Normal seasonality (%)	50	35	53
Unable to buy paddy during crisis (%)	23	10	26
Unsafe during the political crisis (%)	15	25	13
Urban (%)	44	22	48
Completed high school (%)	49	22	54
Female (%)	3	4	3
Average years managing mills	14	12	14
Number of paddy purchase occasions in 7 days	3	1	4
Number of rice sales occasions in last 7 days	6	3	6

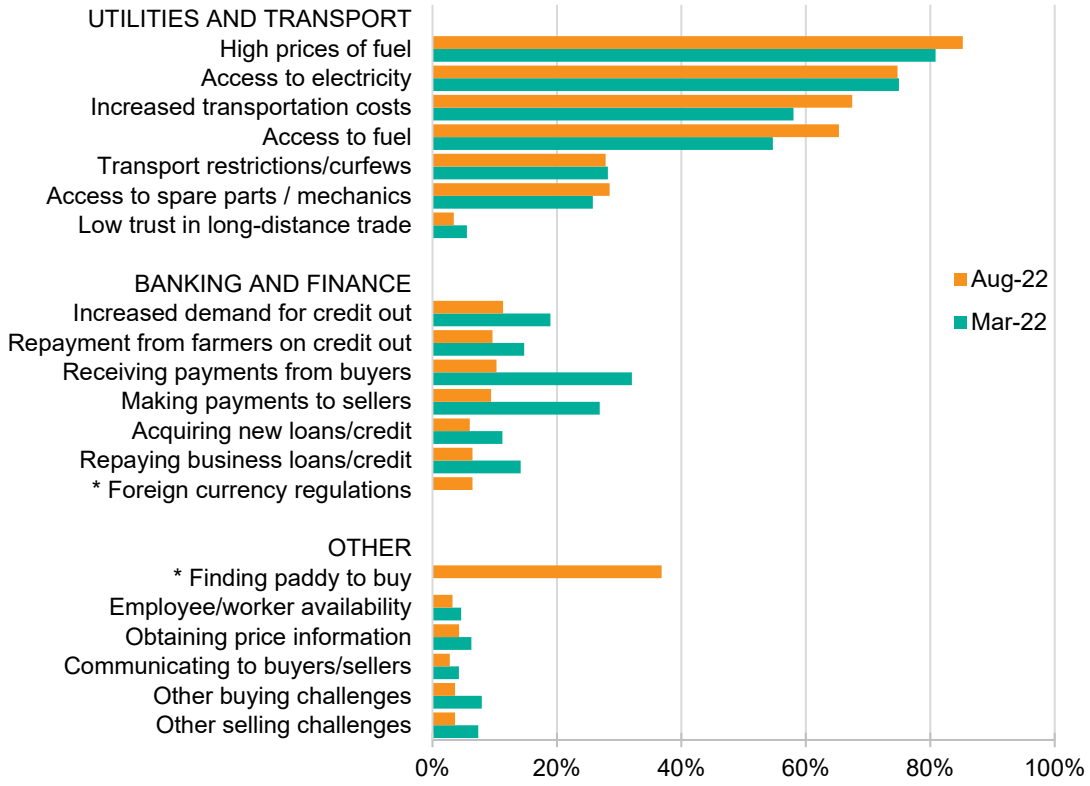
Source: Miller survey–August 2022 survey round.

Disruptions to rice milling

Consistent with prior survey rounds, we asked rice millers what type of disruptions they have experienced in the last 30 days. Millers were greatly affected by high fuel prices and high transportation costs (81 percent and 58 percent, respectively) as well difficulties accessing electricity (75 percent) and fuel (55 percent) (Figure 2). In general, utilities and transport disruptions in August were similar or worse than in March. However, banking disruptions have eased somewhat, with especially large declines in reported disruptions in making and receiving payments. Credit access has apparently also improved somewhat since March. Most credit taken in is from private banks, though mills located in Naypyitaw received loans from the Myanmar Agricultural Development Bank. Thirty-seven percent of mills reported difficulties finding paddy to buy, though we do not have a comparison data point from March. With most millers not directly involved in exporting, only 6 percent cited the unpredictable currency regulations as a disruption, though the policies certainly have indirect effects on the domestic rice sector.

When further probed on what type of disruption they perceived as most challenging. Electricity and fuel access and prices remained the largest issues for mills in August (91 percent, up from 82 percent in March; Figure 3). For modern mills which rely on electrical power to operate machinery, electricity supply disruptions were the largest issue, while the small mills which mostly use diesel-powered equipment reported rising fuel costs as the main issue. Reported fuel costs more than doubled from one year prior. Rising fuel prices also affect transportation costs which increased by an average of 63 percent.

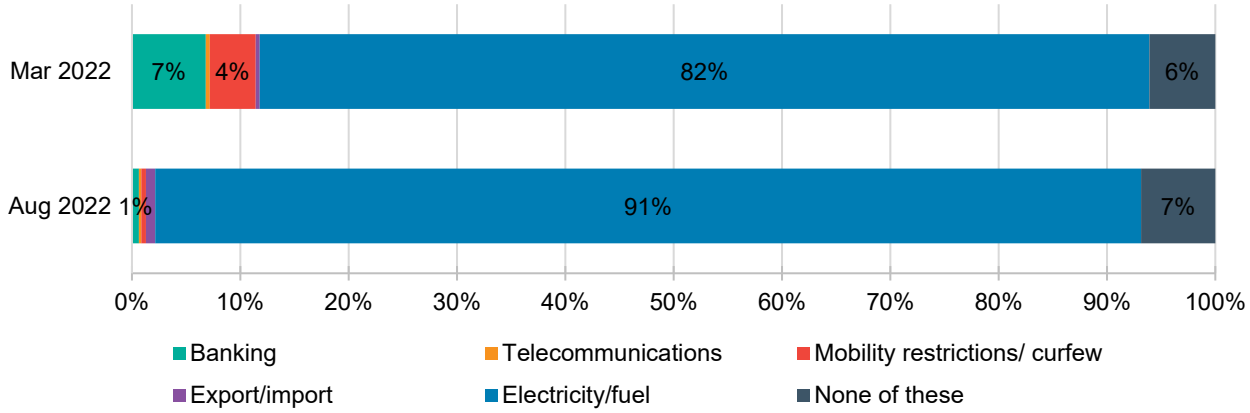
Figure 2. Disruptions experienced by rice millers in the 30 days prior to interview, percentage reporting



Source: Miller survey–August and March 2022 survey rounds.
* Denotes questions not directly asked in the March survey round and hence difficult to interpret until future rounds are completed.

Figure 3 shows that other sources of disruption declined in relative importance between March and September 2022. Just 1 percent of millers felt that banking disruptions were the most significant in August, down from 7 percent in March. Similarly, mobility restrictions and curfews were not a leading issue for millers in August, despite 28 percent reporting those disruptions (Figure 2). Among the mills reporting movement restrictions, 44 percent of small mills reported potential safety issues during transport, compared to just 11 percent of modern mills.

Figure 3. Most significant business disruption experienced, percentage of rice millers reporting by survey rounds



Source: Miller survey–August and March 2022 survey rounds

Rice milling operations

A series of questions on milling operations were asked to understand how rice millers have responded to these challenges. The data reveal troubling declines in milling throughput and storage for both small/micro mills and medium/large mills (Table 2). For medium and large mills, average throughput for the monsoon season declined by about 16 percent relative to 2021, while August throughput was 22 percent lower, perhaps reflecting more acute issues in electricity access in the month. Miller storage of both paddy and rice also declined relative to 2021, perhaps suggesting lower quantities produced in the pre-monsoon season.

Credit – both taken in and lent out to farmers – is mostly stable for both mill types. An increase in working capital of 16 percent even with a decline of throughput suggests that more capital is required for the same quantity of paddy. Daily wages increased by about 10 percent while fees for milling on commission also rose relative to one year prior, but by a smaller percentage for small/micro mills (4 percent increase) compared to medium and large mills (13 percent).

Table 2. Operations, employment, and credit in August 2022 compared to August 2021

	Small / micro mills			Medium / large mills		
	Aug 2021	Aug 2022	% change	Aug 2021	Aug 2022	% change
Milling throughput						
Throughput in last 30 days (MT)	65	47	-27%	220	173	-22%
Throughput in March-September (MT)	175	143	-18%	668	559	-16%
Storage						
Paddy (# of bags)	1,418	1,085	-23%	15,364	12,216	-20%
Rice (# of bags)	21	10	-50%	683	471	-31%
Credit out to farmers						
Share lending out	5%	5%	0%	19%	18%	-4%
Conditional average amount ('00,000 MMK)	135	135	0%	586	573	-2%
Credit taken in						
Share borrowing	7%	5%	-20%	12%	10%	-16%
Conditional average amount ('00,000 MMK)	406	181	-55%	1,866	2,337	25%
Other						
Daily wage (MMK/day)	6,807	7,591	12%	7,333	7,960	9%
Weekly capital to buy paddy ('00,000 MMK)	49	50	2%	597	692	16%
Fees for milling 108lb bag (MMK)	1,195	1,242	4%	1,284	1,452	13%

Source: Miller survey–August 2021 and 2022 survey rounds

Rice and byproduct price changes and milling margins

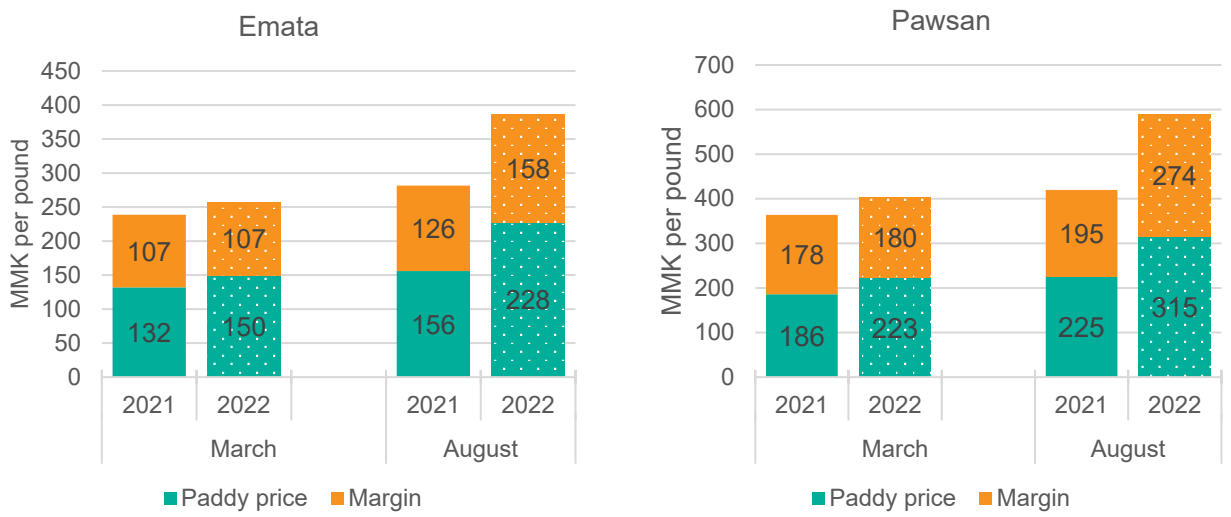
In each survey, we collect mill-level price data for paddy, rice, and milling byproducts at the time of interview with recall data back to one year prior. In this note, we report findings for the two rice varieties: Emata, the predominant variety for local consumption and exports, and Pawsan, a more expensive type preferred locally by affluent urban consumers but with negligible exports (Figure 4). In our sample, Emata varieties are more common (306 millers sold Emata in August 2022 survey while only 64 sold Pawsan).

Paddy and rice prices soared in August 2022 compared to five months ago and the same time last year (Figure 4) primarily due to increases in global prices driven by the Ukraine war[1] and rapid depreciation of the Myanmar kyat. Year-on-year changes in Emata and Pawsan purchase prices increased by 46 percent and 40 percent respectively in August while rice selling prices increased by 37 percent and 40 percent respectively. Emata prices increased by more than triple and Pawsan doubled compared to year-on-year changes seen in March. Paddy-to-rice milling margins have also

[1] Though the policies had not taken effect at the time of our survey, India's ban on broken rice exports and increased tariffs on other grades could further increase global rice prices.

grown for both groups compared to March and last year. In the March round that was conducted right before the release of foreign currency restriction by Central Bank of Myanmar (CBM), margins were stable and year-level margin changes were almost zero. In contrast, year-on-year margin changes in this round have jumped by approximately 26 percent for Emata and 40 percent for Pawsan.

Figure 4. Paddy prices and milling margins in March and September 2022 with recall comparisons to 2021

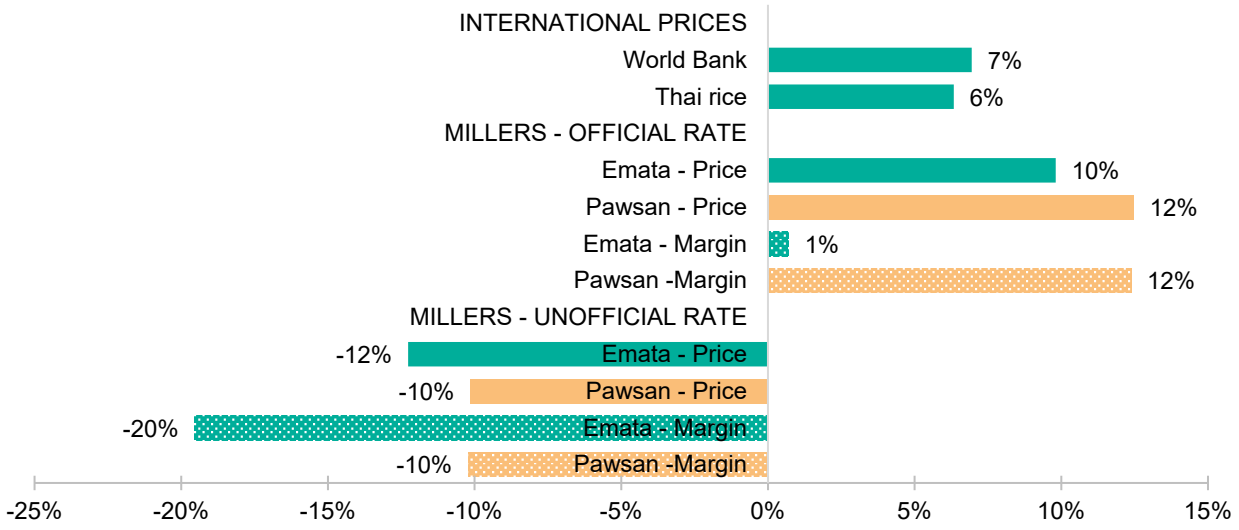


Source: Miller survey–March and August 2022 survey rounds.

Given large global market disruptions and the large gap between official and parallel market exchange rates[2], we compare the price and margin changes in our miller data in USD terms to similar rice price changes in Thailand and global markets (Figure 5). At the official exchange rate, the year-on-year price increases for Emata and Pawsan outpace prices in the global and Thai markets and, with rising transport costs, consumer price changes are likely higher still. However, at the informal exchange rates (the more accurate market value of the kyat), USD rice prices have declined year-on-year. The discrepancy between the CBM rate and the informal market rate and frequent changes in foreign currency regulations create enormous uncertainty in the market which may have led to price volatility. Unpredictability in the export market could have a cascading impact on domestic market pricing as well, particularly for Emata, which is heavily exported. Milling margins for Emata are stable in USD at the official rate, signaling continued competition and access to exports (Figure 5). Further, at unofficial rates, margins have declined since 2021, implying that millers are not extracting exorbitant profits and may be suffering during the heightened volatility.

[2] Exchange rates in August 2022 and August 2021 show that MMK lost 25 percent of its value against the USD and 10 percent of its value against the Thai Baht at the CBM official rates, but MMK lost 51 percent against the USD at the informal parallel exchange rate.

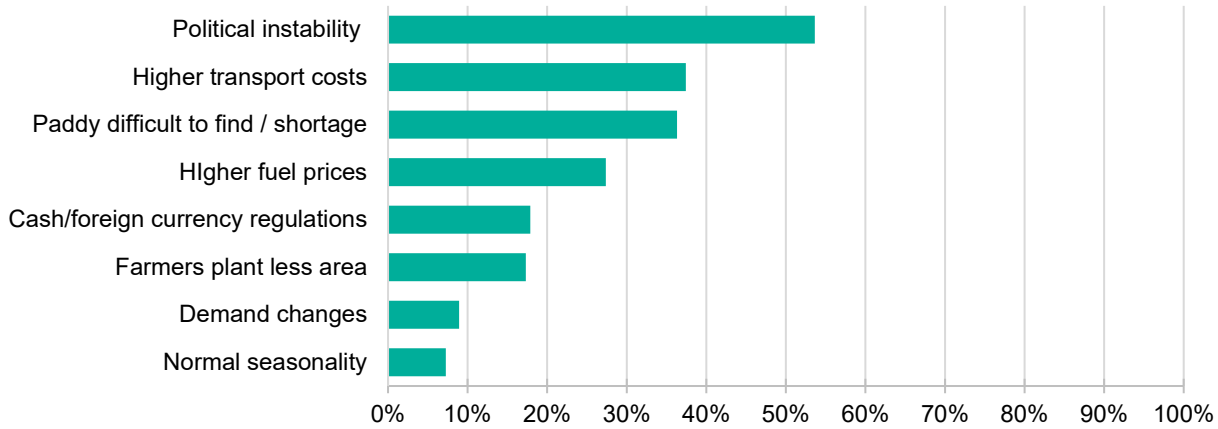
Figure 5. Year-on-year percentage changes in USD equivalent prices at official and unofficial exchange rates with comparisons to international price changes, August 2022



Sources: World Bank Pink Sheet; United States Department of Agriculture; and Miller survey - August 2022 round.

In addition to global price increases and MMK depreciation, it is possible that other, more local disruptions to paddy supply or milling volumes could contribute to the price increases. To evaluate millers' perspectives on price changes this year, we report their perceived reasons for the changes (Figure 6). Overall, political instability is the most cited reason (54 percent reporting) and it is particularly acute with millers in the Dry Zone (73 percent) and the Delta (51 percent). Higher transport costs (37 percent) and fuel prices (27 percent) are also perceived as contributing to higher prices. Millers also perceive a decline in paddy availability to buy (36 percent) while 17 percent cited a decline in paddy area planted during the pre-monsoon season, which was most common in the Dry Zone where conflict was more widespread.

Figure 6. Reasons for changes in paddy purchasing prices



Source: Miller survey–August 2022 survey round.

In addition to the main milling output of rice, byproduct prices have also increased markedly (Table 3). Sales of milling byproducts such as broken rice and rice bran are an important source of mill revenue and profits, particularly for modern mills. Millers were less likely to sell byproducts in August 2022 compared to one year earlier, despite rising prices. Large grade broken rice, which is exported in high volumes, show the smallest price increase at 40 percent, perhaps anchored by the official

exchange rate. In contrast, small grade broken rice prices increased by 59 percent and bran prices increased by 72 percent on average compared to August 2021. These products are sold domestically, and rice bran is an important input in fish and poultry feeds. Thus, the large price increase could reflect a substitution by fish and poultry farmers away from expensive imported feeds, as well as domestic feed manufacturers substituting feed ingredients.

Table 3. Byproduct sales and prices in August 2022 with recall to August 2021, medium and large-scale mills

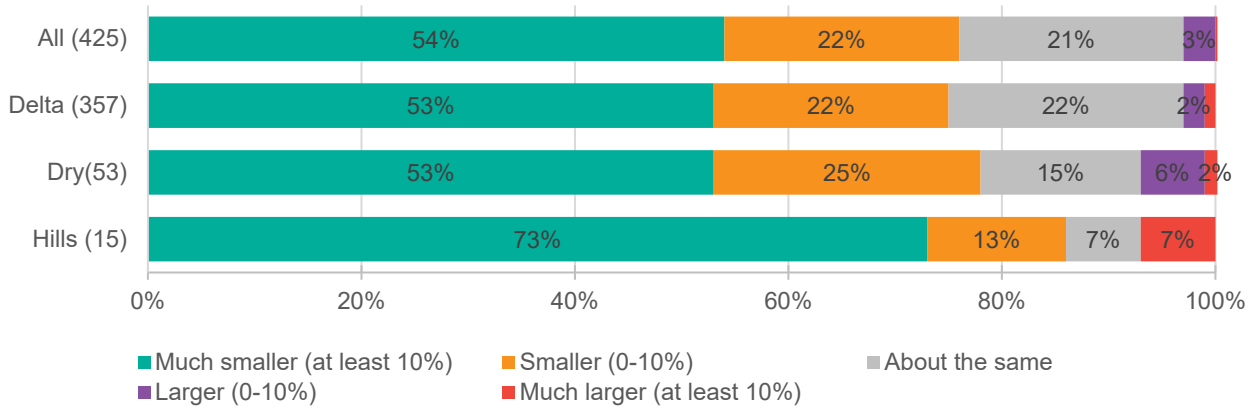
	Broken rice - small	Broken rice -large	Bran
Share selling byproducts			
August 2022	68%	80%	81%
August 2021	74%	86%	87%
% change	-6%	-6%	-6%
Price (MMK/lb)			
August 2022	222	287	246
August 2021	145	209	146
% change	59%	40%	72%
Change in sales among selling, year-on-year			
Decrease	34%	35%	35%
Increase	25%	24%	23%
Same	41%	41%	42%

Source: Miller survey–August 2022 survey rounds.

Looking forward

The monsoon growing season is essential for Myanmar's food security, accounting for about 80 percent of all paddy rice production annually. In the August survey, we asked millers about their forward-looking expectations of the monsoon paddy harvest in their townships in 2022 compared to 2021. Over half of all millers expect a decline of at least 10 percent and an additional 22 percent of millers expect a smaller decline. Just 3 percent expect their local paddy production to be higher in the 2022 monsoon than in 2021. The outlook is bleak across the three agro-ecological zones in our survey, including the Delta region which serves as Myanmar's rice basket. The Hills region shows the greatest pessimism though we note that we have a small sample of millers there.

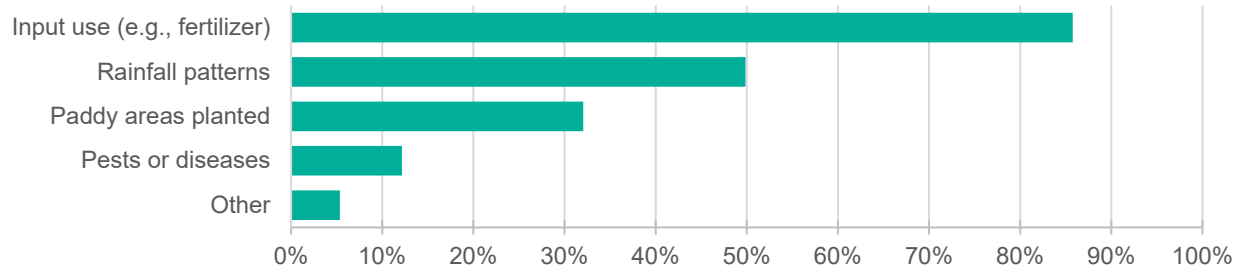
Figure 7. Expected monsoon paddy harvest this year compared to last year



Source: Miller survey–August 2022 survey round.

Changes in input use (e.g., a decline in fertilizer application) are far and away the most frequently cited reason for lower expected paddy production (Figure 8). Half of millers said that less favorable rainfall patterns compared to 2021 are also a factor in lower paddy production, while 32 percent of millers reported that lower acreage of paddy planted by farmers was another important factor (especially in the Dry Zone).

Figure 8. Main factors leading to the expected change in local paddy harvests in 2022



Source: Miller survey–August 2022 survey round.

On top of lower reported throughput in August 2022, and lower storage volumes, a decline in monsoon paddy production would have large implications for both rural and urban households. Lower supply coupled with continued and widespread disruptions to utilities and transport, could drive prices even higher. At the same time, unpredictable foreign exchange and export policies could create additional uncertainty for value chain actors, and greater price volatility.

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