



Monitoring the impact of COVID-19 on Myanmar's rice mills

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- This study was conducted to gain an overview of how Myanmar's rice value chain has been affected by the COVID-19 crisis.
- The research team adopted a series of phone surveys with about 380 rice millers, comprising of medium and large-scale rice mills in Ayeyarwady, Yangon and Bago regions of Myanmar in January, April, June and September 2021.
- Banking sector disruptions, particularly in payment processes, pose a significant challenge for rice millers, with 70% of respondents reporting this issue in September 2021.
- Overall, the rice milling industry faces financial difficulties, with lower expected paddy harvests and milling throughput in 2021 compared to 2020, a 24% drop in working capital, decreased lending to farmers, increased transportation costs, and widespread adoption of COVID-19 safety practices.

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Overview and key findings

The study seeks to understand the impact of the COVID-19 pandemic in Myanmar's rice mills. Myanmar, like most countries, has enacted policies designed to curb the spread of COVID-19. Many of these policies will have impacted on rice value chains – from farmers, through mills, to consumers. This study was conducted to gain an overview of how Myanmar's rice value chain has been affected by the COVID-19 crisis.

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Key findings are:

- Banking sector disruptions remain the most significant challenge for rice millers in September 2021 (reported by 70 percent of respondents) and receiving payment for rice and making payment for paddy are among the most frequently cited disruptions.
- Expected monsoon season paddy harvests and milling throughput in 2021 are lower than 2020 (55 percent and 74 percent, respectively).
- Mills are in an increasingly difficult financial situation. Working capital dropped by 24 percent compared to September last year and fewer mills sold milling byproducts—rice bran and broken rice—which are important for profitability. Overall, 68 percent of millers expect monsoon milling profits in 2021 to be less than in 2020.
- Lending to farmers declined in the 2021 monsoon season compared to 2020. Fewer millers offered credit to farmers and the average value of credit-out was 21 percent lower.
- Increased transportation costs and transportation restrictions were also widespread challenges in September 2021. Diesel prices have increased by 31 percent since December 2020 and by 10 percent since June 2021.
- COVID-19 safety practices jumped following Myanmar's third wave of cases: ninety- eight percent and 97 percent of millers adopted face coverings and regular handwashing, respectively.
- Mill-level rice sales prices increased between June and September, following their normal season trends. Compared to last year, milling margins were higher for Emata varieties and lower for Pawsan, but overall milling margins in 2021 have been similar to their 2020 levels. Thus, milling margins are not a major contributor to changes in retail rice prices paid by consumers this year compared to last year.

Policy motivation for research

Rice millers are vital actors in Myanmar's food supply chain. In addition to their milling and processing roles, they also buy paddy directly from farmers, offer inputs on credit to farmers, and dry and store paddy and milled rice. Through these functions, mills add substantial value in rice supply chains, which benefits farmers and consumers (via food quality) both directly and indirectly. Therefore, any serious disruptions or shocks to rice mills will impact both rural rice-producing households and urban consumers. The COVID-19 measures to combat the spread of the disease, including stay-at-home orders, lockdowns, curfews, and business and restaurant closures, have had negative impacts on the agri-food system.¹ Rice mills have been affected, too. Thus, to better understand how the COVID-19 crisis and corresponding policy responses have affected rice processing businesses in Myanmar, phone panel surveys were launched. Since July 2020, we called the same sample of rice millers almost monthly, allowing us to track important disruptions because of COVID-19 and recent disruptions in Myanmar.

Methodology

The research team adopted a series of phone surveys with more than 400 rice millers, comprising of medium and large-scale rice mills in Ayeyarwady, Yangon and Bago regions of Myanmar. The sampling frame was used from previous rice miller phone surveys conducted in 2020, which was based on the Rice Miller Survey study in 2019 (N=657). However, the actual number of interviews conducted in phone surveys resulted in upwards of 400 mills. All interviews were conducted remotely over the phone, and there was no in-person contact involved. The interviews took about 20-30 minutes on average.

This study examined the effects of COVID-19 and political instability on rice millers in Myanmar. We present evidence from interviews with 388 rice millers in the main rice-growing regions of Myanmar—Ayeyarwady, Bago and Yangon—conducted in September 2021. We present evidence of the current situation in relation to previous survey rounds, including:

- 1) disruptions in milling caused by the political and health crises;
- 2) changes in operations—throughput, monsoon season credit, paddy and rice storage, and profits
- 3) expectations for the coming monsoon harvest and marketing season; and
- 4) prices of paddy, rice, and byproducts.

¹ <http://www.fao.org/3/cb1347en/CB1347EN.pdf>

Key findings

Overview of rice mills

From August 24 to September 15, 2021, 388 mills were interviewed via telephone, of which 239 (62 percent) were active in the 30 days prior to the interview and 148 (38 percent) were inactive (Table 1). The share of inactive mills was the highest since our phone surveys began in July 2020. COVID-19 was the most cited reason for closures (78 percent) as cases spiked between July and August during the third wave of COVID-19 in Myanmar. Normal seasonality was the second most common reason for inactivity, cited by 30 percent of the respondents overall but just 5 percent in Yangon where mills source paddy from other regions and operate more regularly throughout the year. Difficulties purchasing paddy (20 percent) and political instability (15 percent) also emerged as challenges leading to closures, though only 5 percent of interviewed millers reported violence near their mills.

Table 1. Rice miller sample and reasons for inactivity by region

	All	Ayeyarwady	Bago	Yangon
Active in Sep 2021, number	239	134	66	39
Not active in Sep 2021, number	149	70	58	21
Total number	388	204	124	60
If not active, main reasons not active, (% reporting)				
COVID-19	78	83	69	86
Seasonality	30	45	48	5
Difficulty buying paddy	20	24	12	29
Safety related to political instability	15	16	12	19

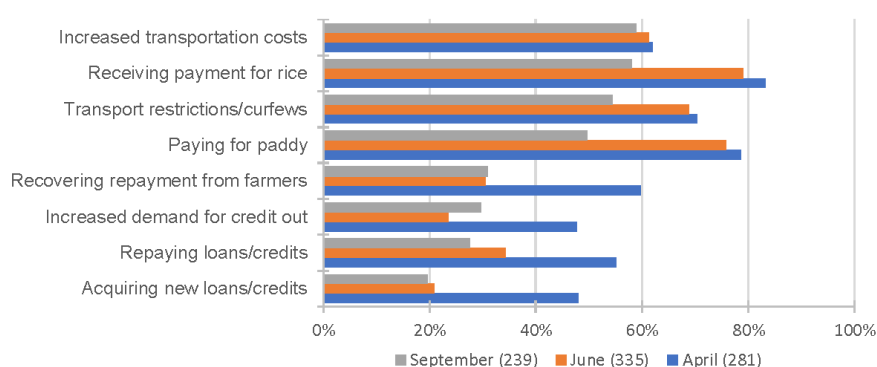
Source: Miller survey–September 2021 survey round

Effects of economic disruptions on rice millers

To understand the effects of COVID-19 and political instability over time, we asked millers a series of questions on different types of disruptions experienced

in the 30 days prior to interview. Overall, disruption levels declined since April and June (Figure 1), though disruptions were still widespread in September. At least half of the sample reported increased transportation costs (59 percent), difficulties receiving payment for rice (58 percent), transport restrictions² (54 percent) and difficulties paying for paddy (50 percent). Credit challenges were also prevalent. Difficulty recovering repayment from farmers on credit lent out remained the same as June (31 percent) and there was an increase in farmer demand for credit (30 percent in September from 24 percent in June).

Figure 1. Disruptions experienced by rice millers in 30 days prior to interview, percentage reporting



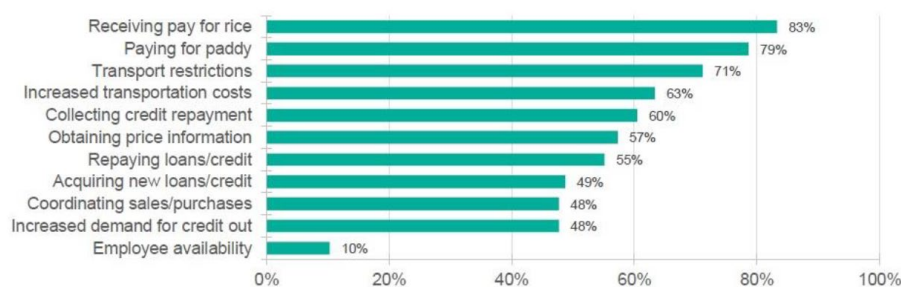
Source: Miller survey—April, June, and September 2021 survey rounds.

To further evaluate these disruptions, we asked millers to identify which group of disruptions they considered to be the most significant. Banking system disruptions continued to stand out as the largest problem for rice millers (70 percent, Figure 2). In response, millers have continued to rely heavily on cash for both buying paddy and selling rice. On average, cash transactions accounted for 93 percent of paddy purchases and 82 percent of rice sales in September, up from 71% and 46%, respectively in January 2021.

Transportation disruptions were the second most significant disruption (10 percent). Although restrictions on border trading increased in August for COVID-19 precautions, selling directly to exporters is not common in our sample of millers and only 2 percent of the respondents cited exports and imports as the most significant disruption.

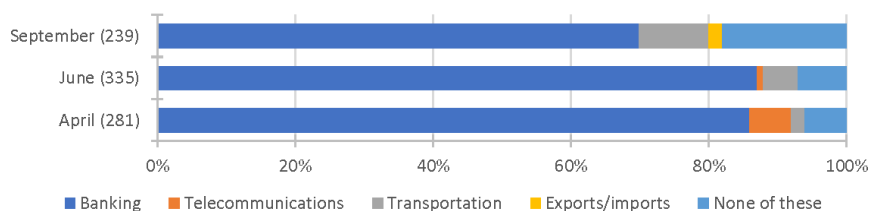
² Transportation restrictions are any enforced limitations on movement at any level including state/region boundaries, townships, or village tracts.

Figure 2: Disruptions experienced by rice millers since February 1, percentage reporting.



Source: Rice miller phone survey, April 2021.

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



Source: Miller survey— April, June and September 2021 survey rounds.

Rice miller responses to economic disruptions

Rice millers were also asked a series of questions to understand how they have responded to these challenges. Following the third wave of COVID-19 cases, millers were much more concerned about COVID-19 safety in September compared to June, when the majority of millers (79 percent) reported little or no concern about COVID-19. That share fell to just 20 percent in September.

Adoption of safety practices increased as well, with nearly all millers requiring employees to wear face coverings (95 percent) and wash hands regularly (96 percent). For the first time in our surveys, 11 percent of mills had employees that were vaccinated against COVID-19.

Average monthly throughput among active millers declined by 36 percent relative to September 2020 and average working capital in-hand to purchase paddy declined by 25 percent (Table 2).

Figure 4. Adoption of COVID-19 safety measures in September and June

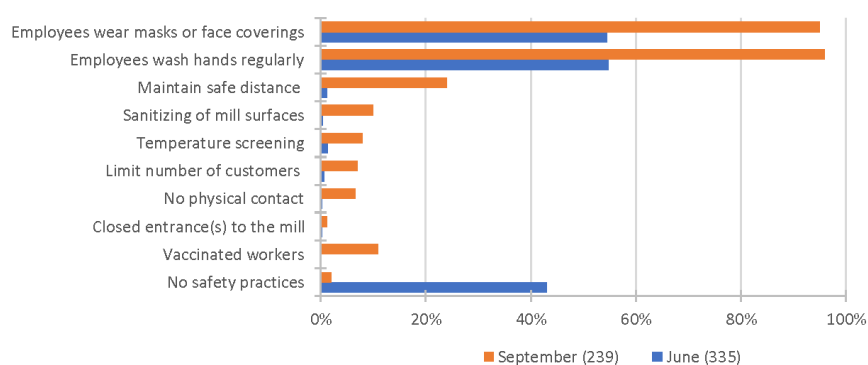


Table 2. Operations, monsoon credit provision, and transportation in September 2021 with comparisons to September 2020

	Sep 2020	Sep 2021	% change
Average monthly throughput (MT)	418	267	-36
Average working capital ('00,000 MMK)	803	609	-24
Credit provided to farmers during the monsoon season			
Share of millers providing (%)	29	24	-5
Conditional average credit value ('00,000 MMK)	789	624	-21
Type of credit offered (% offering)			
Cash		90	
Fertilizer		44	
Seed		15	
Other inputs		10	
Transport			
Average cost of transport to Yangon (MMK per 1 bag)	552	606	10
Average time to transport to Yangon (hr)	8.3	6.2	-25

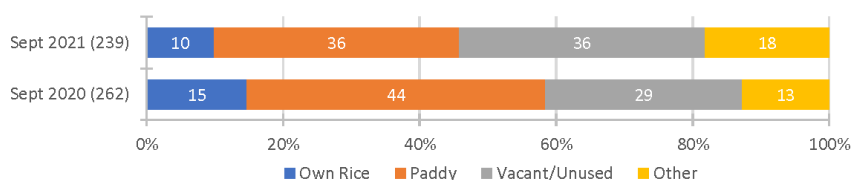
Source: Miller survey– September 2021 survey round

Looking back over the 2021 monsoon growing season, millers provided much lower amounts of credit to farmers compared to 2020. Both the share of millers providing credit declined (5 percent points) as well as the average value

provided (21 percent). Most millers provided credit in cash (90 percent), followed by fertilizer (44 percent), seed (15 percent), and other inputs (10 percent).

The September 2021 data also show challenges in marketing. Average transportation costs to Yangon increased by 10 percent from one year prior. Reported diesel prices increased by 10 percent since June and by 31 percent since December 2020. The health and instability risks, together with these rising costs, led to reduced marketing opportunities for farmers; 42 percent of millers made fewer trips to purchase paddy in September 2021 compared to September 2020, and just 8 percent reported an increase in buying trips. Another troubling trend is a decline in paddy and rice storage (Figure 4). The share of available storage allocated to both rice and paddy—36 percent and 10 percent, respectively—have dropped compared to September 2020—44 percent and 15 percent. Following the same pattern, the average number bags of paddy in storage decreased by 44 percent in September 2021 compared to September 2020 while the average number of rice bags in storage dropped by 19 percent.

Figure 5. Storage allocations to rice, paddy storages, vacant spaces, and other uses in September 2020 and 2021



Source: Miller survey—September 2021 and September 2020 survey rounds

Looking ahead to the monsoon marketing season, we asked millers about their expectations for paddy harvests, total monsoon season paddy throughput, and milling profits (Table 3). The image is similarly discouraging; 55 percent of respondents expect lower monsoon paddy harvests in their areas this year compared to 2020 and just 5 percent expect an increase. Interestingly, an even greater share of millers (74 percent) expects a decline in total throughput during the monsoon harvest season and just 7 percent expect an increase. Millers are thus pessimistic about their abilities to purchase a usual share of the monsoon paddy, which is a function of the decline in paddy production, but also reduced storage and lower working capital. Yangon millers are the least optimistic as none reported expected increases in either paddy production or throughput.

Expected milling profits follow a similar pattern. Moreover, unpredictability due to border closures, transportation restrictions and costs, as well as the

devaluation of the Myanmar kyat, have led to more volatility in milling profits compared to last year. Half of the sample reported an increase in month-to-month profit volatility compared to 2020, with Bago (68 percent) showing the greatest volatility.

Table 3. Monsoon marketing season expectations of paddy harvests, throughput, and milling profits in 2021 relative to 2020

	All (239)	Ayeyarwady (134)	Bago (66)	Yangon (39)
Expectation of local monsoon paddy harvest (%)				
More in 2021	5	5	7	0
Less in 2021	55	53	46	74
Same	40	41	47	26
Expectation of total monsoon season milled throughput (%)				
More in 2021	7	10	5	0
Less in 2021	74	66	83	87
Same	19	24	12	13
Expectation of monsoon milling profits (%)				
More in 2021	8	9	6	10
Less in 2021	68	62	78	74
Same	23	29	15	15
Perceived stability of milling profits (%)				
More stable in 2021	4	4	2	8
More volatile in 2021	50	46	68	34

Note: 'Don't know' responses excluded; less than 4 percent of observations in each question.

Source: Miller survey–September 2021 round

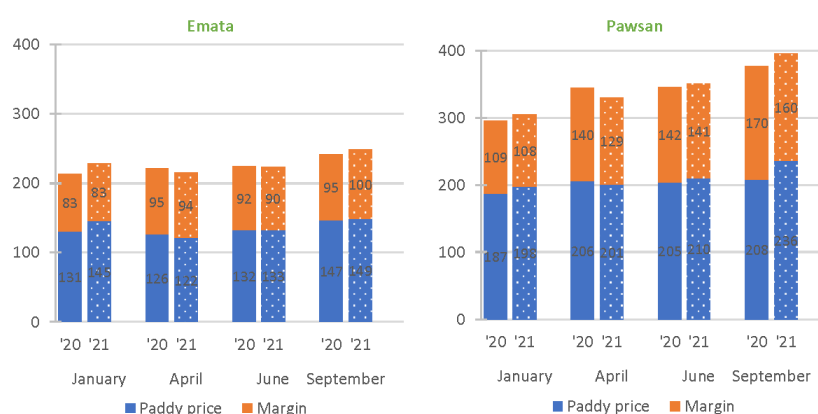
In the January and April 2021 rounds of the rice miller survey, we tracked changes in prices and milling margins by collecting price data at the time of interview with recall to one year prior (Table 3). For Emata types, paddy and rice prices declined between January and April 2021, while gross milling margins remained unchanged. This is the opposite of usual seasonal patterns, especially given lower processing volumes

Changes in prices over time

An important objective of the millers' survey has been to track mill-level prices over time for paddy, rice, and milling byproducts. Following a normal seasonal pattern ahead of the monsoon harvests, rice and paddy prices for Emata and Pawsan variety groups were higher in September than their June levels (Figure 5). Compared to last year, milling margins were higher for Emata varieties and lower for Pawsan, but it is remarkably how similar milling margins have been to their 2020 levels. Thus, milling margins are not a major contributor to changes in retail rice prices paid by consumers this year compared to last year.

In addition to milled rice, sales of milling byproducts, namely broken rice, and rice bran, are an important source of revenue and financial viability. There were large disruptions to byproduct marketing in April, and, while there has been some recovery, the share of millers selling both broken rice and bran in September were each 9 percent below their 2020 levels. Prices of broken rice and bran increased from June and were 4 percent higher in September this year compared to last year.

Figure 5. Paddy prices and milling margins in January, April, June, and September, 2020 and 2021, for Emata and Pawsan, by MMK per pound



Note: '20=2020, '21=2021. Source: Miller survey—January, April, June, and September 2021 survey rounds.

Table 5. Byproduct sales and prices in January, April, June and September 2021

	Broken rice				Rice bran			
	Jan	Apr	Jun	Sep	Jan	Apr	Jun	Sep
Share of mills selling								
2021 (%)	81	58	77	83	81	58	77	84
2020 (%)	89	89	84	92	91	89	84	94
Change (%)	-9	-30	-7	-9	-10	-31	-7	-9
Price (MMK/lb)								
2021	176	161	166	178	117	100	104	136
2020	162	167	166	170	117	113	116	129
Change (%)	9	-3	0	4	0	-12	-11	5

Source: Miller survey–April, June, and September 2021 survey rounds.

Looking forward

The COVID-19 crisis and continued political unrest caused significant disruptions to Myanmar’s rice mills during the monsoon growing season, leaving the sector in a weakened state ahead of the important monsoon harvest and marketing season. Millers have lower stocks of paddy and rice in storage than last year as well. Financial constraints are also prominent as banking disruptions persist and working capital is lower than the same time last year. Although rice selling prices are higher than last year, paddy purchasing prices have also increased, and milling margins remain competitive.

Hopefully, more millers will continue operations as paddy harvests come in and as COVID-19 cases continue to fall. However, with reduced credit offered to farmers in the 2021 monsoon season and higher input costs, millers expect lower monsoon paddy harvests than last year, and lower milling throughput as well. Increased transportation costs and mobility restrictions could further hinder paddy purchases. Millers’ profit expectations are overwhelmingly low in 2021 due to higher market uncertainty, lower milling throughput and higher transportation costs. Easing transport restrictions and re-opening export markets would bring much needed stability to rice markets while relaxing the financial and production constraints that millers are experiencing.

Looking ahead to the winter and summer production seasons, millers are unlikely to increase their credit provision to farmers to pre-COVID-19 levels, given their ongoing financial challenges. Winter and summer lending accounts for 42 percent of the average credit provided to farmers by millers throughout

the year. Thus, it is similar in importance to the monsoon season lending. Together with the continued increase of input prices, this may lead to a cycle of lower crop production. Credit guarantees to enable banks or MFIs to expand working capital to the milling sector should be considered to ensure the financial viability of rice milling.

Policy recommendations

There are numerous policy actions that could lessen the disruptions facing Myanmar's rice sector documented in the above analysis. Amongst which, we see the two following actions are especially salient.

Recommendation # 1

Credit guarantees to enable banks or MFIs to expand working capital to the milling sector should be considered to ensure the financial viability of rice milling.

Recommendation # 2

Easing transport restrictions and re-opening export markets would bring much needed stability to rice markets while relaxing the financial and production constraints that millers are experiencing.