

STRATEGY SUPPORT PROGRAM RESEARCH NOTE 80

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Monitoring the Agri-food System in Myanmar

Rice Millers – March 2022 survey round

In March 2022, we interviewed more than 540 active rice millers to assess business disruptions and price changes at the midstream of Myanmar's most important agricultural value chain.

Key findings

- Electricity and fuel disruptions were cited as the largest disruption for more than 80% of millers in March 2022, overtaking banking disruptions which had been the largest challenge in each survey round since early 2021.
- Transport and fuel cost increases are also significant difficulties for modern mills. Diesel prices have more than doubled from a year ago.
- Paddy and rice prices were higher in March 2022 than one year prior. For Emata varieties, paddy prices increased by 14 percent and milled rice prices increased by 8 percent. However, milling margins are stable, suggesting that millers are not contributing to the escalating consumer rice prices.
- Total monsoon harvest season throughput declined by 15 percent on average compared to a year ago. The leading factor is likely households withholding more rice and marketing smaller volumes, though reduced milling time from electricity cuts and diesel shortages also contribute.
- Lower throughput and constant margins imply lower overall profitability reflected in lower average operating capital. Lower profits and heightened uncertainty over the last two years have also contributed to a sharp decline in machinery investments.

Looking forward

- Increasing fuel and transport costs increase distribution margins and raise consumer prices. Electricity shortages or unpredictable shutoffs for modern mills could put further upward pressure on prices by restricting the marketed supply of rice.
- There is a high degree of uncertainty about rice exports from the recent foreign exchange policy changes including a fixed kyat conversion rate. Access to export markets can help stabilize prices in an otherwise turbulent economy. Further, with declining miller profits, byproduct markets become even more important for financial viability and a large volume of broken rice is exported. Therefore, potential disruptions to rice exports could have adverse effects on the rice value chain.
- The low investment in machinery in recent years not only suggests stalled growth in the rice milling sector but also some depreciation of equipment without replacement.









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Introduction

Rice mills are the major link between farmers and consumers in the rice value chain. Any severe disruptions to rice mills will affect both rural rice-producing households and urban customers. We have been monitoring the impact of COVID-19 and political instability on rice millers in Myanmar with a panel phone survey since June 2020.

In this research note – the eleventh note in the rice miller series – we present the results from telephone interviews with 543 rice millers conducted between 21st February and 30th March, 2022, including 1) milling disruptions caused by the political crisis; 2) changes in operations such as hired labor, throughput, paddy and rice storage, and working capital; and 3) year-on-year changes in paddy, rice, and byproduct prices.

This note uses an expanded sample from 11 states and regions (Figure 1). In addition to the medium- and large-scale mills from previous interview rounds, the March 2022 sample includes traditional small and micro-mills locally known as *Halar Sat* and *Ngar Pone Sat* (15 percent of the sample, Table 1). In the past decade, these smaller mills have seen a declining market share as the number of more efficient, modern mills has increased. While small/micro mills generally have much lower milling capacity than modernized mills, they play an essential role in remote rural communities by providing milling services on commission mostly for household consumption. The subsample of modern millers is more urban, better educated, more experienced, and more likely to keep written records (Table 1).





Source: Miller survey-March 2022 survey round

Table 1. Miller characteristics

	All	Small/Micro	Medium/Large
Ν	543	83	460
Urban (%)	46	20	51
Completed high school (%)	51	22	56
Female (%)	16	18	16
Average years managing mills	14.3	10.2	15.0
Keep written records (%)	90	59	95
Mill capacity (MT/day)	28.2	4.2	32.5

Source: Miller survey-March 2022 survey round.

Disruptions to rice milling

In the March 2022 survey, we continued to ask millers a series of questions on different types of disruptions faced in the 30 days prior to the interview to better evaluate the effects of COVID-19 and political disturbances over time (results in Figure 2). Overall, fuel and electricity disruptions are the most common. About 80 percent of modern larger mills reported having difficulties accessing electricity and fuel. Many traditional smaller mills are run on diesel generators, and nearly 90 percent reported disruptions from high prices of fuel in March. Fuel access was a large disruption for both mill types. Modern millers require transportation for both the paddy input and rice output and were thus more severely affected by rising transportation costs (65 percent) and transport restrictions and curfews (35 percent). Among those millers reporting transport disruptions, the most common restrictions were check points (35 percent), special permissions (27 percent), and fees (23 percent). Most of the restrictions were at the state/region (75 percent) and township (60 percent) levels.

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



Source: Miller survey-March 2022 survey round.

To further evaluate these challenges, we asked millers to identify which group of disruptions they considered to be the most significant (Figure 3). With frequent power outages and rising fuel prices since the start of 2022, electricity and fuel are now overwhelmingly the largest disruptions for both mill types, overtaking banking which dominated throughout 2021. Disruptions related to banking are still a challenge, particularly to medium and large mills who conduct more purchases and sales.





Source: Miller survey–March 2022 survey round

Rice milling operations changes

In our surveys, we also include a series of questions on milling operations to understand how rice mills have responded to these challenges. For the 2021/22 monsoon harvest season, millers reported an average total throughput decline of about 15 percent relative to the 2020/21 season (Table 2). Throughput in the 30-days prior to interviews shows and even larger decline, perhaps reflecting the acute power challenges mills are facing. Paddy storage also declined, and these results together suggest a possible decline in monsoon paddy production. However, farm-level data do not show significant average production declines but a decrease in the share of rice that is marketed by households (MAPSA Forthcoming). While that is likely the main factor in reduced milling throughput, electricity and fuel disruptions likely also contribute to lower operating hours.

As suggested by Figures 2 and 3, average costs of diesel have more than doubled since last year which will increase operating costs and continue to widen the price gap between consumers and producers (MAPSA 2022)¹. The rising fuel costs and declines in throughput contribute to lower mill profits and an average decline in working capital of 9 percent for larger mills. Yet, employment and credit are mostly stable, particularly for larger mills. Lastly, millers continue to be heavily reliant on cash. On average, cash transactions account for 99 percent of paddy purchases and 69 percent of rice sales, though in-person bank transfers rose again to 19 of rice sale transactions in March 2022.

¹ Myanmar Agriculture Policy Support Activity (MAPSA). 2022. "Agricultural value chains in a fragile state: The case of rice in Myanmar." Myanmar SSP Working Paper 15. Washington, DC: International Food Policy Research Institute (IFPRI). https://doi.org/10.2499/p15738coll2.135054

Table 2. Operations, employment, and credit in March 2022 with comparisons to March 20	rch 2021
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	Small / micro mills			Medium / large mills		
	21-Mar	22-Mar	% change	21-Mar	22-Mar	% change
Throughput						
Last 30 days (MT)	39	26	-35%	366	272	-26%
Monsoon harvest season (Sept-Mar, MT)	199	166	-16%	1,504	1,275	-15%
Storage						
Paddy (# of bags)	1,246	901	-28%	24,676	20,343	-18%
Rice (# of bags)	58	63	8%	724	717	-1%
Transport						
Cost of diesel (MMK/L)	976	2,186	124%	911	1,843	102%
Employees						
Permanent employees (#)	2.8	2.4	-13%	6.0	6.0	0%
Daily workers (#)	2.1	2.1	-2%	20.5	20.5	0%
Daily wage (MMK/day)	6,936	7,021	1%	7,691	7,701	0%
Working capital						
Weekly capital to buy paddy ('00,000 MMK)	29	29	-1%	612	556	-9%
Milling commission fees						
Fees for milling 108lb bag (MMK)	1,131	1,218	8%	1,207	1,290	7%
Credit lent out						
Share lending out	4%	5%	33%	18%	18%	2%
Conditional average amount ('00,000 MMK)	158	120	-25%	834	781	-6%
Credit borrowed in						
Share borrowing	4%	5%	33%	13%	14%	9%
Conditional average amount ('00,000 MMK)	235	209	-11%	1,559	1,530	-2%

Source: Miller survey-March 2022 survey round

The turbulence and uncertainty from the COVID-19 pandemic since 2020 along with the political unrest since early 2021 have led to a clear decline in machinery investments for modern larger mills (Figure 4). What was once a rapidly expanding and modernizing milling sector has stalled and machines are depreciating without replacement. As further evidence of investment declines, only 7 mills in our sample have upgraded their capacity in 2021 or 2022 and only 13 did so in 2020, As a comparison, between 2015 and 2019, an average of 29 mills in our sample upgraded their capacity per year.



Figure 4. Purchase year of machines owned by modern rice mills, 2016 to 2022

Source: Miller survey- March 2022 survey round

Price changes over time

We also collect detailed mill-level price data for paddy, rice, and milling byproduct at the time of interview with recall data back to one year prior. We present results for the two main variety groups: Emata and Pawsan. Emata is the main variety for local consumption and that also accounts for the majority of rice exports while Pawsan is a more expensive type for wealthier consumers with low export volume. Compared to last year, paddy prices have increased by 14 percent for Emata and 20 percent for Pawsan. Slightly smaller increases were observed in rice prices; 8 percent for Emata and 11 percent for Pawsan. Rising prices at the mill-level, together with escalating transport costs will lead to even higher prices for consumers. As documented in other survey rounds, average milling margins for both Emata and Pawsan continue to be stable, showing very minor changes from last year. Thus, millers, for their part, are not contributing to increased consumer rice prices.

	Emata (267)			Pawsan (60)			
	Paddy	Rice	Margin	Paddy	Rice	Margin	
Mar-22	152	259	107	221	398	177	
Mar-21	133	240	107	185	360	175	
% change	14%	8%	0%	20%	11%	1%	

Table 3. Paddy and rice prices and milling margins in March 2022 and recall to March 2021, Emata and Pawsan, MMK per pound

Source: Miller survey–March 2022 survey round. Sample size for paddy in parentheses.

In addition to milled rice, sales of milling byproducts, namely broken rice and rice bran, are an important source of mill revenue and profits particularly for modern mills who are more likely to sell (Table 4). Shares of millers marketing each byproduct are similar in March 2022 relative a year earlier, though prices have increased by 10-17 percent on average. There is no clear pattern in marketed volumes among those selling as similar shares of millers reported increases and decreases relative to last year.

	Small / micro mills			Medium / large mills			
	Broken rice - small	Broken rice -large	Bran	Broken rice - small	Broken rice -large	Bran	
Share selling bypro	ducts						
Mar-22 (%)	41	49	52	76	85	88	
Mar-21 (%)	40	48	51	73	83	85	
% change	3	3	2	3	3	3	
Price (MMK/lb)							
Mar-22	135	176	123	162	221	146	
Mar-21	122	156	106	141	194	128	
% change	10	13	17	15	13	14	
Change in sales among selling, year-on-year							
Increase (%)	26	22	19	38	36	35	
Decrease (%)	15	20	19	27	30	28	
Same (%)	59	59	63	35	34	37	

Table 4. Byproduct sales and prices in March 2022

Source: Miller survey-March 2022 survey rounds.

Looking forward

Increasing fuel and transport costs increase distribution margins and raise consumer prices. Further electricity shortages or unpredictable shutoffs for modern mills could put further upward pressure on consumer rice prices by restricting the marketed supply of rice.

There is a high degree of uncertainty about rice exports from the recent foreign exchange policy changes including a fixed kyat conversion rate. Access to export markets can help stabilize prices in an otherwise turbulent economy. Further, with declining miller profits, byproduct markets become even more important for financial viability and a large volume of broken rice is exported. Therefore, potential disruptions to rice exports could have adverse effects on the rice value chain.

The low investment in machinery in recent years not only suggests stalled growth in the rice milling sector but also some depreciation of equipment without replacement.

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