MYANMAR

STRATEGY SUPPORT PROGRAM RESEARCH NOTE 84 AUGUST 2022

Monitoring the Agri-food System in Myanmar

Agricultural Input Retailers – July 2022 survey round

To understand the effects of political instability, COVID-19, and other shocks on Myanmar's agricultural input sector, a phone survey of 252 input retailers throughout the country was conducted in July 2022.

Key findings

- Input prices during the 2022 monsoon growing season were substantially higher than a year prior, especially for urea (91 percent higher) and for compound fertilizers (75 percent higher).
- Despite large disruptions in transportation and currency exchange, inputs were generally available. However, because of rising prices, input sales dropped sharply relative to 2021. Input retailers have attributed their drop in sales to rising transportation charges, political instability, changing demands, and, alarmingly, a decline in acreages planted by farmers.
- The decline in fertilizer sales appears to be especially severe in the Delta region, which accounts for about half of Myanmar's monsoon paddy production. In contrast, aggregate fertilizer sales quantities increased slightly in the Hills region due to high maize prices and export demand.

Looking forward

- As a result of price increases and sales declines for inorganic fertilizer, perhaps most severe in the major rice growing regions, Myanmar may see declines in paddy production in the 2022 monsoon season, a large concern given rice's importance in diets nationwide and for rural incomes.
- One positive development has been the return of in-person bank transfers as a method of payment, but otherwise there is little sign of relief in the input retail sector as problems with high transport costs and credit availability are likely to continue.
- Providing farmers with advice on nutrient management practices and fertilizer use efficiency is highly recommended to help maintain profitable yields under the constraints of high fertilizer costs.

USAID FROM THE AMERICAN PEOPLE

FEED THE FUTURE The U.S. Government's Global Hunger & Food Security Initiative

LIFT Livelihoods and Food Security Fund

managed by UNOPS

Introduction

Agricultural input retailers play a key role in Myanmar's agri-food system by supplying farmers with fertilizer, seed, pesticides, and other inputs necessary for successful harvests. Because farm-level input use is an important driver of yields for all major food crops, economic shocks to the input retail sector have major implications for rural household welfare as well as for food security.

In this Research Note, we present results and analysis of recent economic disruptions on agricultural input retailers from a telephone panel survey of 252 retailers conducted across different agro-economic zones in July 2022 (Table 1). This survey is a continuation of a panel survey that began in June 2020 during the first wave of COVID-19 in Myanmar. For this round, we expanded the sample to achieve a higher number of observations and wider geographic coverage, though it is important to note that the sample is not representative of the population of input retailers in Myanmar. This note examines (i) disruptions caused by the political and COVID-19 crises to the agricultural input sector, most notably the increase in transportation costs; (ii) business responses to these disruptions; and (iii) changes in sales quantities and prices of important agro-inputs including fertilizers, seeds, and pesticides. We asked input retailers to recall information from the same time last year (July 2021) and compare it to contemporary data from 2022 for the analysis. Findings are shown in percent changes.

Figure 1. Map of Input Retailer Sample

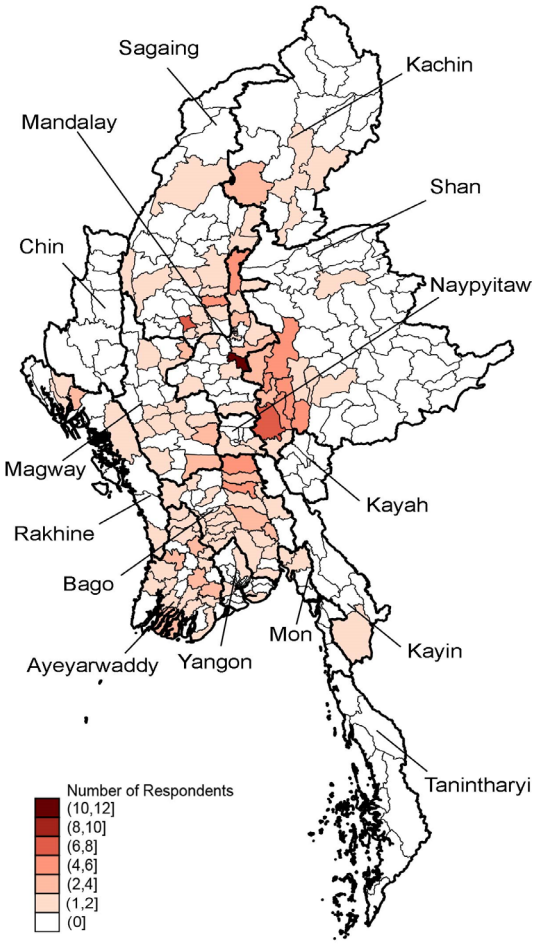


Table 2. Input retailer sample descriptive information by agro-ecological zone

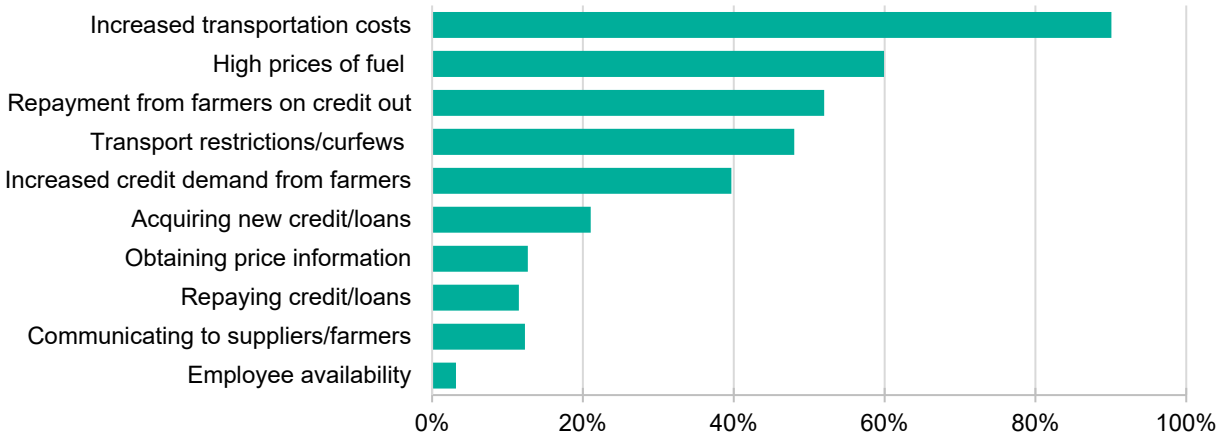
		Agro-ecological zone		
	All	Dry Zone	Hills	Delta
N	252	93	60	99
Share urban	68%	70%	58%	73%
Share completed high school	78%	76%	65%	87%
Share female	30%	18%	37%	36%
Average years selling inputs	11.9	11.5	13.2	11.6
Keep written records	88%	92%	80%	89%
Average total monsoon sales value ('00,000 MMK)	4,274	3,209	8,215	1,174

Source: Agricultural input retailer phone survey–July 2022 round.
Note: 9 observations from Rakhine are added to Delta region due to the low number of observations in the coastal zone. Sale volume includes all inputs except vegetable seeds.

Business disruptions and their impacts

To understand the effects of economic disruptions on input retailers, we asked whether businesses had been affected by a list of potential shocks. Figure 2 shows the shocks experienced by input retailers in July 2022. Ninety percent of the sample was impacted by increased transportation costs, 60 percent by higher fuel prices, and nearly 50 percent was affected by curfews or transportation restrictions. Curfews and transportation restrictions are largely enforced at the state/region and townships levels, though these restrictions are less common. Still, nearly half of those retailers reporting restrictions said they are enforced at the village level. Road blockades and special permissions are the most common restrictions.

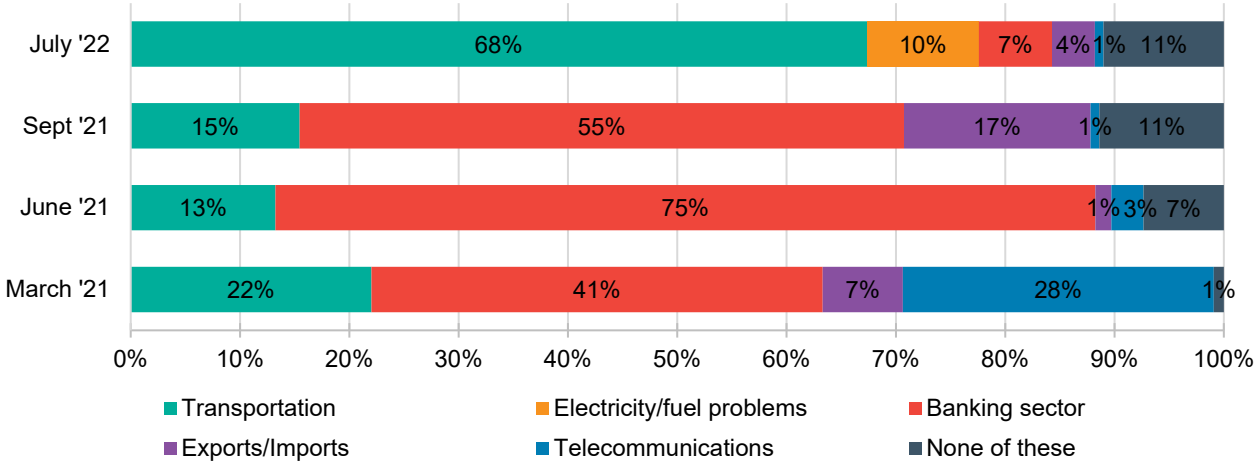
Figure 2. Disruptions experienced by input retailers in July 2022, percentage reporting



Sources: Agricultural input retailer phone survey– July 2022 round

To provide more information on the magnitudes of disruptions, we asked retailers which challenge was the most significant disruption. In addition to being the most prevalent challenge, transportation costs and disruptions also had the largest business impacts: 68 percent of input retailers cited transportation as the most significant disruption in July 2022 (Figure 3). This represents a pronounced shift in the most impactful disruption facing the agri-input sector compared to the previous survey rounds. In the 2021 surveys, issues in the banking sector were the dominant disruption for input retailers, reported by 41-75 percent of respondents in the March, June, and September rounds. While, in July 2022, the banking sector was the main challenge for only 7 percent of respondents.

Figure 3. Most significant disruption experienced by input retailers by survey round, percentage reporting

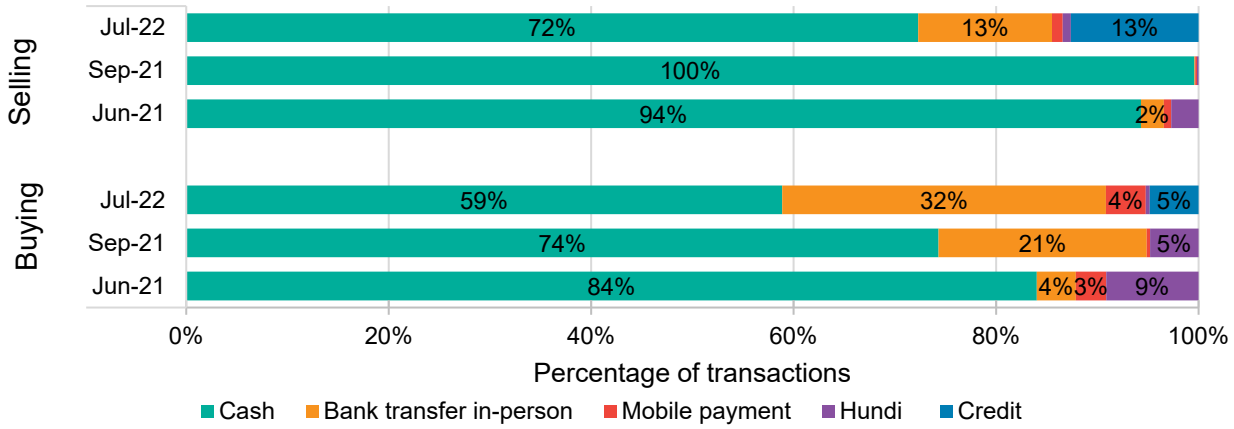


Sources: Input retailer phone survey–July 2022 (N=252); September 2021 (N=123); June 2021 (N=136); March 2021 (N=109)
Notes: The option of 'electricity/fuel problems' was added in the July 2022 survey and is thus not available for previous rounds.

The shift in the most significant challenge reflects both a lessening of the banking challenges as well as an increase in the severity of transportation disruptions. Hired transportation costs increased by an average of 67 percent compared with one year prior. Despite the increase in transport costs, reliability and availability of transport vehicles remain largely unchanged. A majority of respondents (90 percent) reported that the reliability of hired transportation is the same as it was one year ago, and 61 percent claimed that the availability of hired vehicles is also the same. However, locally imposed transport restrictions and curfews remain a disruption in some regions and 25 percent of retailers reported finding transport to be harder than last year while 14 percent reported that it was easier.

With the return to more regular banking operations, in-person bank transfers increased markedly as a payment method relative to the 2021 surveys. In-person bank transfers accounted for 13 percent of sales to farmers compared to 0-2 percent last year. In-person bank transfers also accounted for 32 percent of input purchases from wholesalers/distributors compared to 4-21 percent last year (Figure 4). While the use of the Hundi system has almost ceased, a small proportion of retailers have started to depend on credit sales and purchases of inputs in July 2022.

Figure 4. Transaction method used by input retailers for buying and selling, by survey round, percentage of transactions



Sources: Agricultural input retailer phone survey–March, June, September 2021, and July 2022 rounds[1]

[1] Credit as a transaction method was newly added in the July 2022 round

Challenges with credit lent out to farmers are another prevalent disruption in July 2022 with over half of input retailers reporting difficulty recovering repayment from farmers and 40 percent reporting increased farmer demand for credit (Figure 2). Credit has been a compounding challenge in Myanmar's agrifood system since COVID-19, worsened recently by increasing input costs. Table 2 shows the ongoing credit squeeze input retailers are facing. Less than half of the sample lent cash or inputs on credit to farmers in the 2022 monsoon season, down from 59 percent in 2020 and 57 percent in 2021. Further, conditional median amounts of credit lent out have also declined. At the same time, the share of retailers taking in credit increased in the 2022 monsoon season to just over 20 percent, up from 15 percent in 2020 and 16 percent in 2021, while the conditional median value of credit taken in has increased following higher input prices. Most retailers with credit lent out to farmers (92 percent) expect to be fully repaid within six months (by the winter season or post-monsoon season). Likewise, more than three quarters of input retailers with credit taken in expect to fully repay within six months.

Table 2. Monsoon season credit out and credit in, 2020-2022

	Credit lent out to farmers			Credit taken in by retailers		
	2022	2021	2020	2022	2021	2020
Share providing/receiving	49%	57%	59%	21%	16%	15%
Conditional total value ('00,000 MMK)						
Average	533	486	545	385	300	346
Median	145	150	200	200	150	175

Sources: Agricultural input retailer phone survey– July 2022 round

In addition to being an important source of informal credit for farmers, input retailers often act as de facto extension agents by providing agricultural advice to farmers on the topics of fertilizer use, pest control, soil management, and crop prices during farmers' visits to the stores. Nearly all interviewed shops (94 percent) provided such advice to farmers in the 2022 monsoon season. With diminished operations of government and NGO extension networks following the pandemic and political instability, 71 percent of retailers reported that the number of farmers to whom they provided advice increased relative to 5 years ago.

Changes in inputs prices, and sales quantities

Despite escalating transport costs and global fertilizer supply issues caused by the war in Ukraine, input availability overall was not a major issue during the 2022 monsoon season. Though there may have been supply challenges for some specific products, most input categories had a higher share of respondents selling them in the 2022 monsoon season compared to the 2021 monsoon season though the changes were minor (<3 percentage points). Further, over half of respondents sold more brands of fertilizer compared to a year prior. But follow up calls revealed that retailers were seeking out lower-priced alternatives to their usual stock.

Although availability was not a major constraint, input prices were very high in the 2022 monsoon season. Escalating international fertilizer prices, coupled with high depreciation of the Myanmar Kyat since the coup due to the fixed exchange rate by the Central Bank of Myanmar, have resulted in sustained domestic input price increases (Table 3). Inorganic fertilizer prices saw the largest increases. The two most common types, urea and compound fertilizers, increased by 91 percent and 75 percent respectively since the same period last year. Prices of herbicides increased by 50 percent and those of other pesticides are 38 percent higher than in July 2021. Seeds and farming equipment sold by input retailers also increased.

High prices predictably led to a decline in input sales during the 2022 monsoon season (Table 3). We present two estimates of the year-over-year changes in input sales quantities: a shop-level average that assumes equal weights for each respondent, and an aggregate change that weighs the retailers by their sales quantities. The shop-level estimate is more conservative and less sensitive to large volumes of sales pulling the mean in either direction,[2] but the aggregate change may provide a better picture of total sales quantities, conditional on the sample of retailers being close in size to the population.

Both estimates point to large declines in sale quantities for most inputs. The only exceptions are organic fertilizer and rice seed. Farmers may have transitioned to organic fertilizers as an alternative to chemical fertilizer usage, particularly in the Hills and Dry Zone where there were larger increases in organic fertilizer use. We note that we have relatively few observations for both inputs, and we interpret these results with caution.

Table 3. Input sales and prices average, year-on-year percentage changes

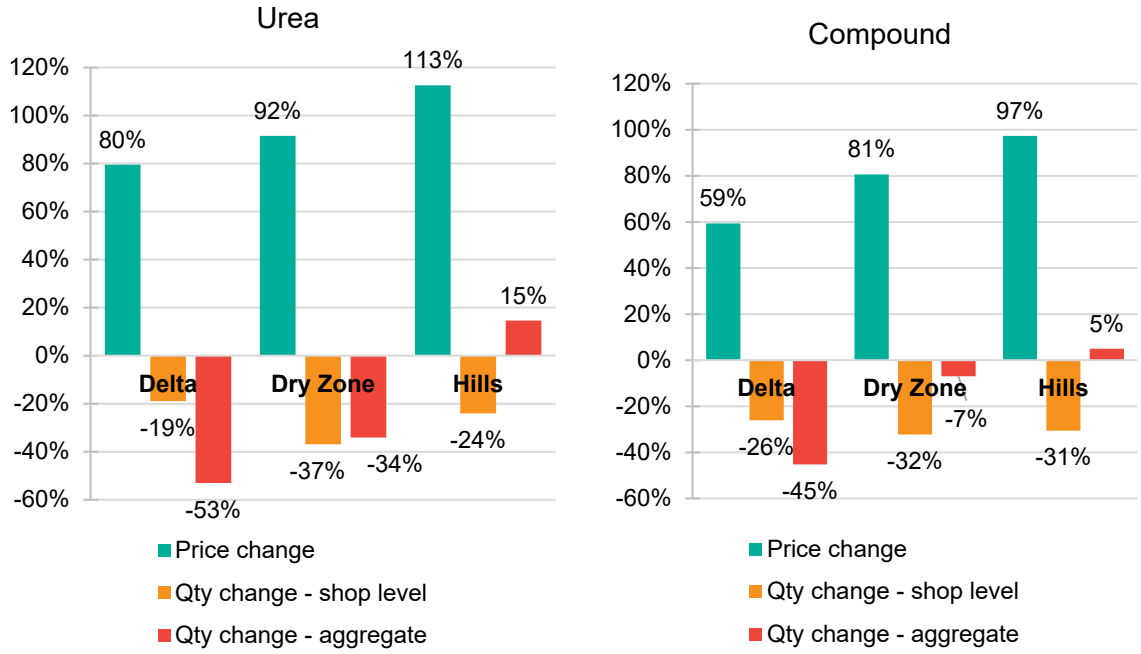
	Number of retailers selling in 2022	Year-over-Year change (Percent)		
		Price change	Monsoon season sales quantity	
			Shop-level average change	Aggregate change
Fertilizers and soil amendments				
Urea	179	91%	-26%	-39%
Compound fertilizer	168	75%	-29%	-15%
Lime-gypsum	102	11%	-19%	-14%
Ammonium sulphate	45	90%	-18%	-29%
T-super	34	93%	-35%	-45%
Potash	28	62%	-22%	-29%
Organic fertilizer	24	25%	14%	-6%
Pesticides				
Herbicides	170	50%	-	-
Other pesticides	128	38%	-	-
Seed				
Vegetable/fruit	59	55%	-	-
Maize	44	20%	-11%	-38%
Rice	38	25%	0%	4%
Farming Equipment	92	32%	-	-

Source: Agricultural input retailer phone survey–July 2022 round.
Notes: Pesticides, vegetable/fruit seed, and farming equipment have sales reported in values, not quantities, and are excluded from quantity change estimates. To avoid double counting of sales changes, we removed 7 retailers that also distribute to other retailers from the calculations.

Inorganic fertilizers quantities sold show especially large sales declines and given their importance for rice and maize yields in Myanmar, they warrant further analysis. Figure 5 shows year-over-year changes in prices and sales quantities for urea and compound fertilizers (the two most common inputs in our data) by agroecological zone. The Delta, which accounts for about half of Myanmar's monsoon paddy production, had the smallest average fertilizer price changes, but also the highest estimates of aggregate quantity changes of -53 percent for urea and -45 percent for compound fertilizers. The Dry Zone, an important but smaller producer of monsoon paddy, also saw declines in inorganic fertilizer sales. This suggests likely declines in Myanmar's monsoon paddy production in 2022. Interestingly, the Hills region shows increases in aggregate fertilizer sales estimates, along with the largest price increases. The stronger demand may reflect the relative resilience of maize production due to rising grain prices and strong export demand to Thailand.

[2] Where the shop-level estimates are meaningfully lower (higher) than aggregate changes, it is due to retailers with larger sales volumes that have lower (higher) sales changes.

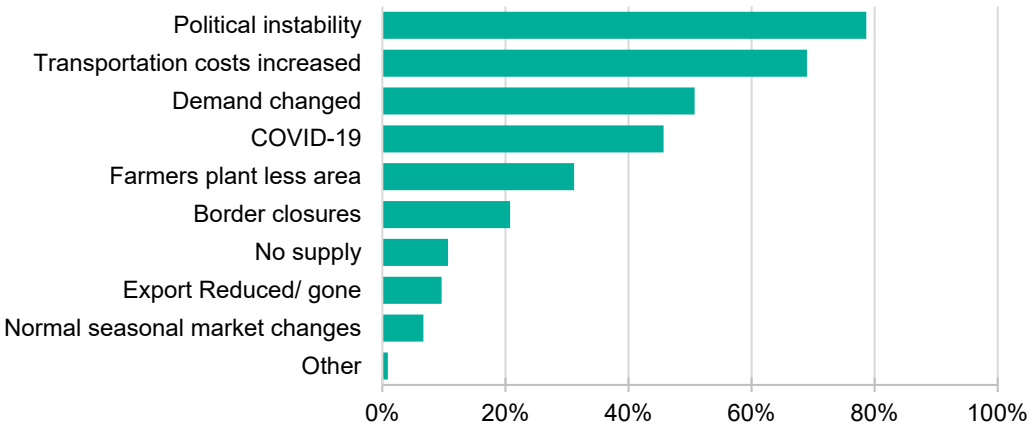
Figure 5. Year-over-year percentage changes in prices and quantities sold of urea and compound fertilizer by agro-ecological zone



Source: Agricultural input retailer phone survey–July 2022 round.

As a follow-up to input sales questions, we asked retailers what they perceived to be the main reasons behind the sales changes (Figure 6). As mentioned above, political instability (79 percent) and rising transport costs (69 percent) were the main reasons behind declining sales. COVID-19 seems to be less of a concern, but it still persists as one of the main challenges cited by about half of retailers. Alarmingly, about a third of input retailers attributed lower acreages planted by farmers as a main cause, also suggestive of declines in monsoon production. Confirming the result on input availability only 11 percent mentioned supply reductions, while 51 percent cited changes in demand.

Figure 6. Reasons behind changes in sales between 2022 and 2021



Source: Agricultural input retailer phone survey–July 2022 round.

Looking forward

Large increases in input prices during the 2022 monsoon season related to higher fuel and transport costs led to large declines in reported sales for most inputs according to our sample of input retailers. Inorganic fertilizer sales have seen particularly striking declines, perhaps most severe in the major rice growing regions. As a result, Myanmar may see declines in paddy production in the 2022 monsoon season, a large concern given rice's importance in diets nationwide and for rural incomes.

One positive development has been the return of in-person bank transfers as a method of payment, but otherwise there is little sign of relief in the input retail sector as problems with high transport costs and credit availability are likely to continue.

Providing farmers with advice on nutrient management practices and fertilizer use efficiency is highly recommended to help maintain profitable yields under the constraints of high fertilizer costs.

ACKNOWLEDGMENTS

This work was undertaken as part of the Myanmar Agricultural Policy Support Activity (MAPSA) led by the International Food Policy Research Institute (IFPRI) in partnership with Michigan State University (MSU). Data collection was managed by MAPSA. Funding support for this study was provided by the CGIAR Research Program on Policies, Institutions, and Markets (PIM), the United States Agency of International Development (USAID), and the Livelihoods and Food Security Fund (LIFT). This Policy Note has not gone through IFPRI's standard peer-review procedure. The opinions expressed here belong to the authors, and do not necessarily reflect those of IFPRI, MSU, USAID, LIFT, or CGIAR.

INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
1201 Eye St, NW | Washington, DC 20005 USA
T. +1-202-862-5600 | F. +1-202-862-5606
ifpri@cgiar.org
www.ifpri.org | www.ifpri.info

IFPRI-MYANMAR
IFPRI-Myanmar@cgiar.org
www.myanmar.ifpri.info

The Myanmar Strategy Support Program (Myanmar SSP) is led by the International Food Policy Research Institute (IFPRI) in partnership with Michigan State University (MSU). Funding support for Myanmar SSP is provided by the CGIAR Research Program on Policies, Institutions, and Markets; the Livelihoods and Food Security Fund (LIFT); and the United States Agency for International Development (USAID). This publication has been prepared as an output of Myanmar SSP. It has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and do not necessarily reflect those of IFPRI, MSU, LIFT, USAID, or CGIAR.