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Myanmar Agricultural Performance Survey (Monsoon 2023):

Farming Environment and Farm Commercialization

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ABSTRACT

We have analyzed the farming environment and farm commercialization situation for the 2023 monsoon season from the Myanmar Agriculture Performance Survey (MAPS), conducted at the beginning of 2024. This survey encompassed almost 4,400 crop producers in the monsoon, distributed across all states/regions of the country. Our findings reveal:

1. The security situation in Myanmar continues to pose concerns for farmers, impacting their commercialization practices. During the interview period (January – March 2024):

   1.1) 31 percent of farmers reported feeling 'very insecure' or 'insecure'.

   1.2) 22 percent expressed serious security concerns while moving around.

   1.3) 8 percent stated that conflict in their area prevented the cultivation of some agricultural fields.

   1.4) 1.4 percent reported land confiscation as a problem in their community.

   1.5) 11 percent indicated fear of storing produce at home due to the risk of confiscation or destruction.

2. Security challenges for farming vary across states and regions, with the Delta area - the country's rice bowl - experiencing relatively better conditions.
3. Limited access to fuel, crucial for irrigation and mechanization among others, poses a significant constraint to farming. Nationally, about a quarter of Burmese farmers reported either no or rare availability of fuel in their communities during the monsoon and post/pre-monsoon periods. This situation is exacerbated in conflict-affected areas such as Rakhine, Chin, and Kayah, with Rakhine experiencing a dramatic worsening in recent months, with 81 percent of farmers reporting fuel scarcity in the post/pre-monsoon period.
4. Agricultural inputs were generally accessible during the 2023 monsoon season, indicating the resilience of the private sector in delivering these inputs. However, 4 percent of farmers reported unavailability of chemical fertilizers, while 6 percent faced difficulties in accessing mechanization and 18 percent in securing agricultural labor.
5. Input prices increased during the 2023 monsoon compared to the same period in 2022, with mechanized plowing costs rising by 20 percent, and hired labor costs for men and women increasing by 19 percent and 23 percent, respectively. Conversely, urea prices decreased by 15 percent.
6. In the post/pre-monsoon of 2024, wages saw substantial increases compared to the monsoon, especially for men, with a 15 percent rise, possibly linked to the new conscription law.
7. Nearly all crop prices increased compared to the previous monsoon. Paddy prices surged by 64 percent. Conversely, maize prices experienced an 11 percent decrease, likely due to transportation issues via Myawaddy, the border town for trade with Thailand.
8. Most farmers reported higher crop sales income this year compared to the previous one. However, 14 percent of farmers reported lower sales incomes.
9. Farmers in remote and conflict-affected areas face significant disadvantages in farm commercialization. Insecurity and isolation are primarily linked to higher input costs, while output prices are similar or lower compared to secure and well-connected areas. Consequently, farming profitability in these regions is reduced, impacting farmers' income and welfare.

1. INTRODUCTION

This Working Paper presents the results from an assessment of farm commercialization in Myanmar after the monsoon of 2023. The results are based on data from a phone survey – the Myanmar Agriculture Performance Survey (MAPS) – that was conducted with 4,663 crop farmers in all states/regions of the country in Q1 of 2024. This note assesses the perceived security situation of crop farmers, agricultural input availability and prices, prices of major crops at the farm level, changes in income from crop sales, and overall crop marketing challenges.

2. DATA AND METHOD

The MAPS is a sub-sample of households interviewed during the sixth round of the Myanmar Household Welfare Survey (MHWS) (MAPSA 2024), fielded at the end of 2023. In the MHWS, information was collected on the background of these households, welfare indicators, and livelihoods (MAPSA 2024). The follow-up MAPS focused on the agricultural activities of crop farmers during the monsoon of 2023.[1] The survey was implemented from January 22nd until March 7th, 2024. The numbers of the crop farmers interviewed in MAPS are reported by state and region in Table 1 and are shown by township in Figure 1.

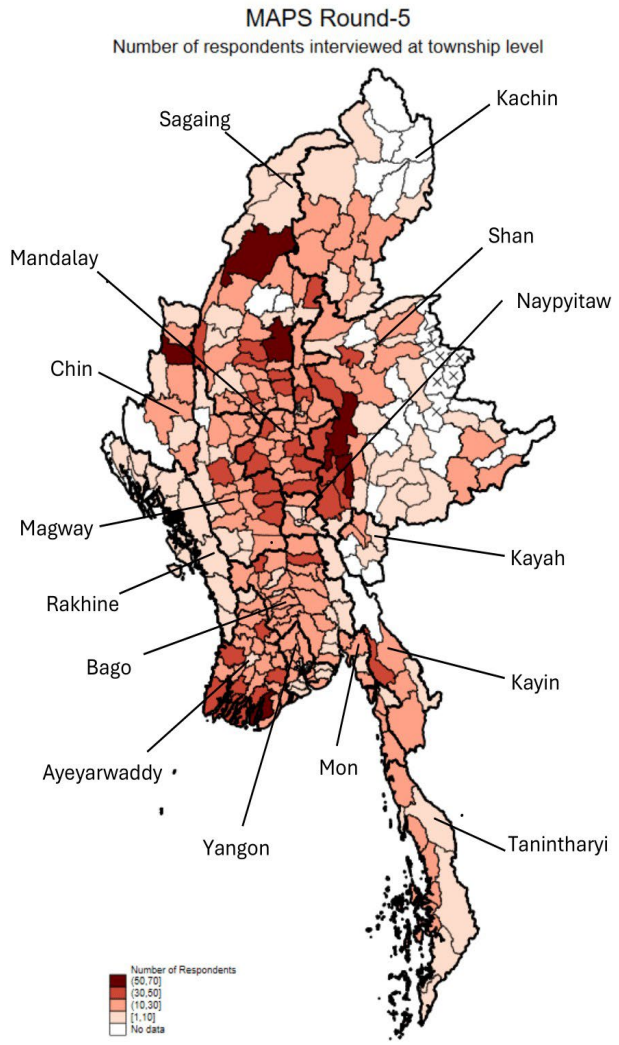
Table 1: Sample of crop farmers, MAPS monsoon 2023

	MAPS R5
Kachin	148
Kayah	39
Kayin	107
Chin	132
Sagaing	764
Tanintharyi	136
Bago	490
Magway	482
Mandalay	568
Mon	141
Rakhine	68
Yangon	171
Shan	690
Ayeyarwady	645
Nay Pyi Taw	82
Total	4,663

Source: Authors' calculations based on MAPS, monsoon season 2023.

[1] Covering the monsoon period, typically crops that are harvested between September and January.

Figure 1: Sample of crop farmers, MAPS monsoon season 2023



Source: Authors' calculations based on MAPS, monsoon season 2023.

To ensure that crop farmers are representative of the crop farming population in their state or region, a weighting factor was calculated building on the method used for the MHWS (for details, see MAPSA 2022). The MAPS collected information on household characteristics, overall area cultivated, crops grown, security problems, input use and farm management practices, yields, sales, output prices, and marketing behavior. Table 1 provides background statistics on those surveyed farmers. We divide the country into four major agro-ecological zones that are commonly used in Myanmar and present our results at this level.[2]

During the 2023 monsoon season, 4,397 farmers of the contacted farmers reported cultivating crops. The average cultivated area during the monsoon season of the interviewed farmers was 6.0 acres (the median was 4.0 acres). Sixty-eight percent of crop farmers in Myanmar grew paddy during the monsoon season of 2023. This is as high as 80 percent of the farmers in the Delta area. Other important crops grown during the monsoon are maize (10 percent of farmers), groundnut (10 percent), sesame (10 percent), and pigeon pea (8 percent). Groundnut, sesame, and pigeon pea

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

were especially important in the Dry Zone where 24, 21, and 19 percent of the farmers grew these crops respectively. Betel nuts were important in the Delta, with 6 percent reporting growing that crop for its leaves. Betel nuts were also important in the coastal areas (17 percent of the farmers were growing).

Table 2: Descriptive crop farmers, MAPS monsoon season 2023

	Unit	National	Hills	Dry	Delta	Coastal
Total number of farmers*	Number	4,397	1,046	1,795	1,362	194
Area cultivated - acres	Mean	5.98	5.68	5.38	7.29	4.76
Area cultivated - acres	Median	4.00	3.50	4.00	5.00	4.00
Crops grown in post-/pre-monsoon 2022						
Rice	% of farmers	68.2	60.5	61.7	80.2	76.8
Maize	% of farmers	10.4	37.0	2.3	0.3	0.0
Groundnut	% of farmers	10.5	4.1	23.6	3.3	0.1
Sesame	% of farmers	9.8	3.4	20.9	4.0	3.3
Pigeon pea	% of farmers	7.9	3.3	19.0	0.8	0.0
Betel leaves	% of farmers	3.7	0.1	4.5	6.3	2.4
Banana	% of farmers	3.2	1.8	2.9	5.0	1.7
Betel nut	% of farmers	3.2	0.7	0.3	4.8	16.9
Cotton	% of farmers	2.7	0.1	6.7	0.9	0.0
Green gram	% of farmers	2.8	0.8	4.6	3.3	0.0
Tomato	% of farmers	2.9	5.7	2.8	0.6	2.8
Chili (fresh)	% of farmers	2.7	2.2	3.5	2.0	3.8
Rubber	% of farmers	1.6	2.4	0.1	1.8	5.3
Black gram	% of farmers	1.6	0.4	2.3	2.1	0.0

*: 4,663 farmers were interviewed but about 6 percent of these farmers did not cultivate crops during the monsoon. The final number of observations is therefore slightly smaller than the number contacted and reported in Table 1.
Source: Authors' calculations based on MAPS, monsoon season 2023.

3. INSECURITY AND AGRICULTURE

Farmers were asked perceptions on insecurity in the area that they reside in. The question was asked in the beginning of the year 2024 as well as at the time of the first (monsoon 2021) and third round (monsoon 2022) of the MAPS to crop farmers that cultivated during those seasons. At the national level, we see a worsening in the perceptions of security by farmers over the last year. While 82 percent of the farmers indicated that they were living in a 'secure' or 'very secure' situation in the beginning of the year 2022, that share declined to 68 percent of the farmers two years later – a further worsening also compared to last year when 72 percent of the farmers reported to reside in secure areas (Table 3). The share of farmers indicating that they were living in a 'very insecure' area increased, at the national level, from 4 to 9 percent over the two-year period. We see a worsening in all agro-ecological zones but the biggest increase in perceptions of insecurity was noted in the Coastal zones where the share of farmers that indicated that they were residing in a 'secure' or 'very secure' area declined by 20 percentage points over the last two years (Table 3). The reported security situation in the Dry Zone stabilized compared to the previous year but is still much worse than two years earlier.

Table 3: Perceptions of insecurity in the area that the farmer resides in, share of farmers

	Unit	National	Hills	Dry Zone	Delta	Coastal
December 2021 – February 2022						
very insecure	%	3.7	4.8	3.5	2.1	6.6
somewhat insecure	%	14.2	19.2	11.9	11.3	20.4
Secure	%	43.0	47.4	38.3	46.6	36.1
very secure	%	38.5	28.1	45.6	40	34.9
prefer not to answer	%	0.6	0.6	0.8	0	2
Total	%	100.0	100.0	100.0	100.0	100.0
January – February 2023						
very insecure	%	9.1	8.2	12.5	5.9	9.1
somewhat insecure	%	18.0	22.6	20.4	12.2	13.9
secure	%	36.2	38.4	31.9	38.4	39.5
very secure	%	36.1	29.7	34.8	42.8	36.8
prefer not to answer	%	0.7	1.1	0.4	0.6	0.8
Total	%	100.0	100.0	100.0	100.0	100.0
January – March 2024						
very insecure	%	9.4	13.2	9.6	4.2	16.8
somewhat insecure	%	21.8	25.0	22.8	16.1	29.4
secure	%	34.7	36.0	33.3	36.0	32.2
very secure	%	33.4	25.2	34.0	43.5	18.2
prefer not to answer	%	0.6	0.6	0.3	0.2	3.4
Total	%	100.0	100.0	100.0	100.0	100.0

Source: Authors' calculations based on MHWS, round 1 and MAPS, rounds 3 and 5.

Feelings of insecurity might have important implications on farm activities as farmers might forego travelling to buy inputs or sell outputs or cultivate land all together. Twenty-two percent of the farmers indicated that they could not move around without serious concerns for security at the time of the survey, a similar level as a year earlier but still worse than two years earlier (Table 4). Concerns on mobility (46 percent of farmers) were the highest in the Coastal areas. A significant improvement is noted compared to a year earlier in the Dry Zone and the Delta. Farmers were also asked if fields were not cultivated or if fields were burnt or destroyed or not harvested because of conflict in their area. At the national level, 4 and 8 percent, respectively, of the farmers indicated that this was the case in their area. Not cultivating land due to conflict was most frequently reported in Coastal areas (17 percent). An increasing problem in rural areas is confiscation of land; 1.4 percent of the farmers reported this to be a problem in their community. The problem is especially prevalent in the Hills (1.9 percent of the farmers) and the Dry Zone (1.8 percent of the farmers). Finally, farmers were also asked if they were afraid to store agricultural produce at their house. At the national level, 10 percent of the farmers indicated that they were indeed afraid to do so. That level was especially high in the Dry Zone (18 percent) and in Coastal areas (10 percent).

Table 4: Insecurity, mobility and agriculture, share of farmers

	Unit	National	Hills	Dry Zone	Delta	Coastal
Cannot move around without serious concern for security						
March 2022	%	20.3	22.0	23.4	16.7	14.7
February – March 2023	%	22.8	20.0	29.4	18.0	20.6
January – March 2024	%	22.3	25.6	22.2	13.7	45.9
Crops or field were burnt or destroyed or not harvested in the farmers' area because of conflict						
February – March 2023	%	4.2	3.6	6.8	1.0	6.9
January – March 2024	%	4.2	6.1	4.7	1.2	7.4
Fields were not cultivated in my area because of conflict						
February – March 2023	%	8.6	9.2	12.4	2.0	15.2
January – March 2024	%	7.6	7.9	10.2	1.7	17.1
Agricultural land was confiscated in this community						
January – March 2024	%	1.4	1.9	1.8	0.6	0.5
Farmer is afraid of storing agricultural produce at his house because of risk of confiscation/destruction						
January – March 2024	%	10.5	7.2	17.9	4.6	10.3

Source: Authors' calculations based on MAPS, rounds 1, 3, and 5.

4. AGRICULTURAL INPUT AVAILABILITY AND PRICES

We next explore to what extent there were problems in the country related to the availability of different agricultural inputs during the monsoon season. We report problems for the monsoon of 2022 and 2023. Farmers were asked if they could not find any or enough of several agricultural inputs. In the most recent monsoon, no large problems of availability were reported nationally and in most of the country agricultural inputs were readily available, indicating the resilience of the private sector to provide these agricultural inputs as they supply the large majority of those (Table 5).

At the national level, 4 percent of the farmers reported that they could not find - or there was not enough - chemical fertilizers, an improvement compared to a year earlier (7 percent at that point). This might partly be due to the increasing involvement of different ministries in the distribution of fertilizer – 11 percent of the farmers indicated that they obtained some of their fertilizers through the public sector (MOALI/GAD/Cooperative Department) as part of the farmers/agricultural assistance program (such as the Special Economic Loan) for the monsoon of 2023. There were fewer problems of availability reported for seeds and pesticides than for fertilizer.

However, availability of labor was a larger issue. Eighteen percent of the farmers reported having problems finding enough laborers, a worsening compared to a year earlier when 14 percent of farmers reported that problem. Labor input availability problems were overall larger in Coastal areas and in the Delta compared to the rest of the country. Note that most of the survey was fielded before the announcement of the Military Service Law, which will likely lead to a further worsening of labor availability problems in the future. We also see a worsening in the availability of mechanization. 6 percent of farmers reported that mechanization was not available to them. Eight and 6 percent of the farmers in the Coastal and Delta region respectively indicated that mechanization was not available (or was not enough).

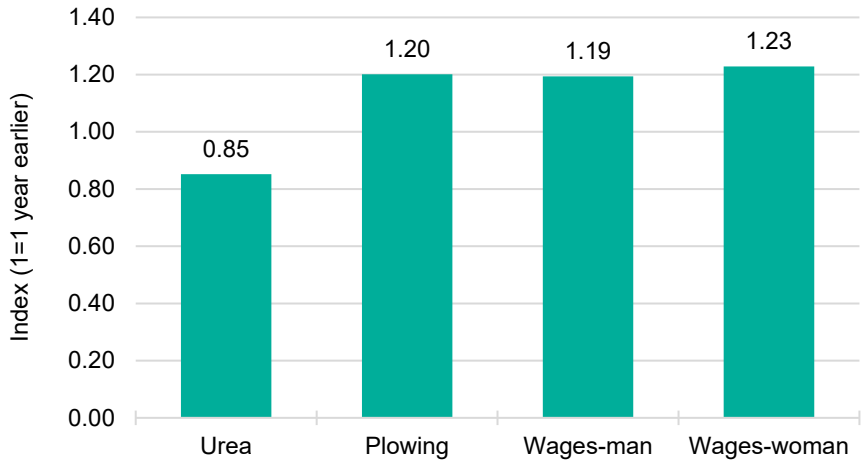
Table 5: Reported problems of availability of agricultural inputs (not available or not enough available) – Monsoon 2022 and 2023

	Unit	National	Hills	Dry Zone	Delta	Coastal
Monsoon 2022						
Chemical fertilizer	%	6.9	8.3	7.0	4.7	11.4
Seeds	%	2.8	3.9	2.4	1.8	4.2
Pesticides	%	1.8	2.9	1.6	1.3	1.4
Mechanization	%	3.2	4.2	2.1	2.9	5.7
Labor	%	14.2	15.8	11.8	15.8	13.9
Monsoon 2023						
Chemical fertilizer	%	3.8	4.0	4.3	2.4	6.3
Seeds	%	2.7	4.7	2.1	2.2	1.0
Pesticides	%	1.8	1.8	1.3	1.4	6.1
Mechanization	%	5.6	5.0	5.2	6.0	7.9
Labor	%	17.8	16.6	16.6	20.6	17.1

Source: Authors' calculations based on MAPS, monsoon season 2022 and 2023.

Farmers were also asked about the prices of agricultural inputs and how they evolved over the last year (comparing monsoon season periods). Prices of urea – the most important fertilizer used in the country – decreased by 15 percent (Figure 2). This lower price reflects substantial international price decreases, but local prices decreased much less than international prices. On the other hand, we see increases in the price of mechanized plowing (+20 percent), mostly driven by fuel price increases. Wages of casual laborers increased by 19 percent for men and 23 percent for women.

Figure 2: Price changes of agricultural inputs in the monsoon of 2023 (price one year earlier = 1)

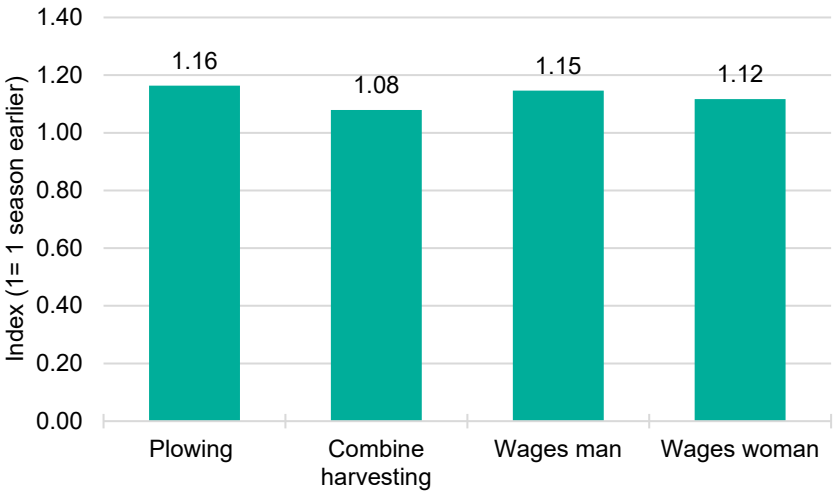


Source: Authors' calculations based on MAPS, monsoon season 2023 and 2022.

We also asked how the situation evolved for a number of these inputs between the monsoon period and the time of the survey (in the middle of the post/pre-monsoon season 2024) (Figure 3). Wages were further on the rise, possibly partly due to fears of conscription (which was announced in the beginning of February, i.e. in the middle of the survey). Wages of men and women increased by 15 and 12 percent respectively, a slightly higher increases for men possibly because of them being targeted by that law. We also see substantial increases in the prices of mechanization which increased by 16 percent for plowing and 8 percent for combine harvesting. These increases seem partly linked to increases in fuel prices (petrol and diesel prices increased, on average, by 28 percent

and 22 percent respectively over the last half year), the problems of accessibility of fuel, as well as insecurity in travel for mechanization service providers.

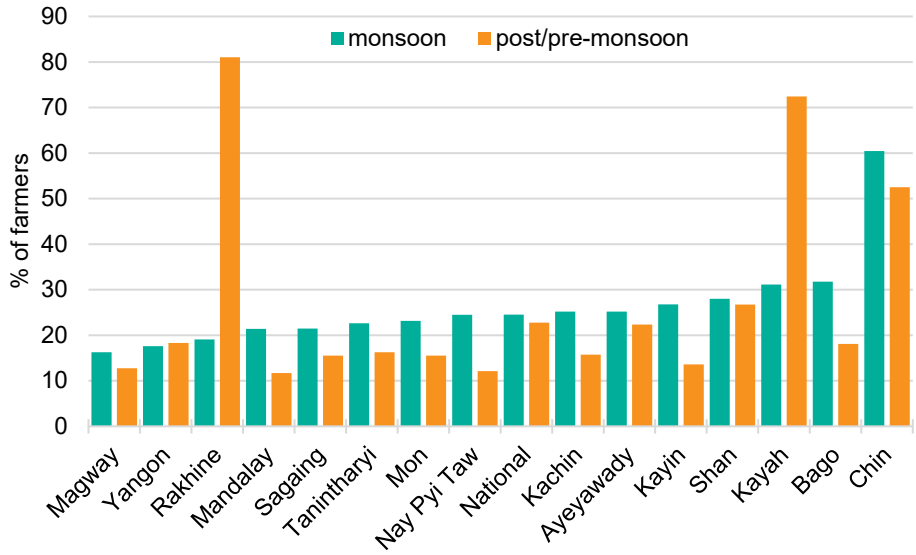
Figure 3: Price changes of agricultural inputs in the post/pre-monsoon of 2024 (price of monsoon = 1)



Source: Authors' calculations based on MAPS, monsoon season 2023 and 2022.

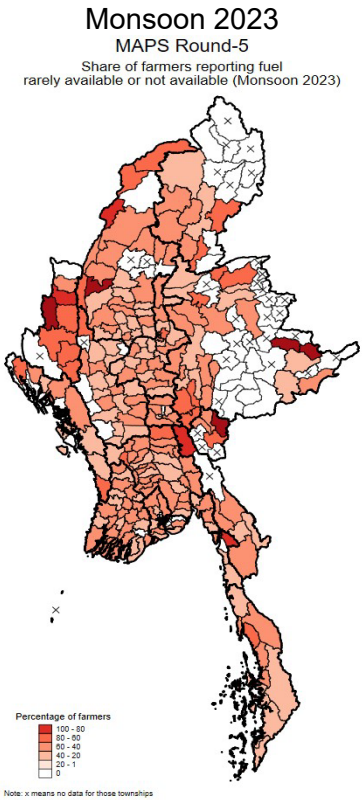
At the national level, 25 percent (23 percent) of the farmers reported that there was no or rarely fuel available in their community during the monsoon (post/pre-monsoon), complicating mechanization use and irrigation among others. We see strong heterogeneity in availability of fuel and in fuel prices in the country (Figures 4 and 5). High fuel prices and problems with fuel availability are especially problematic in the conflict-affected and remote areas of the country. We see high prices and a large share of farmers reporting that fuel was rarely or not available in Chin, Bago, Kayah, Shan, and Kayin during the monsoon. In the post/pre-monsoon, the situation worsened dramatically in Rakhine, with 81 percent of the farmers reporting that fuel was not or rarely available.

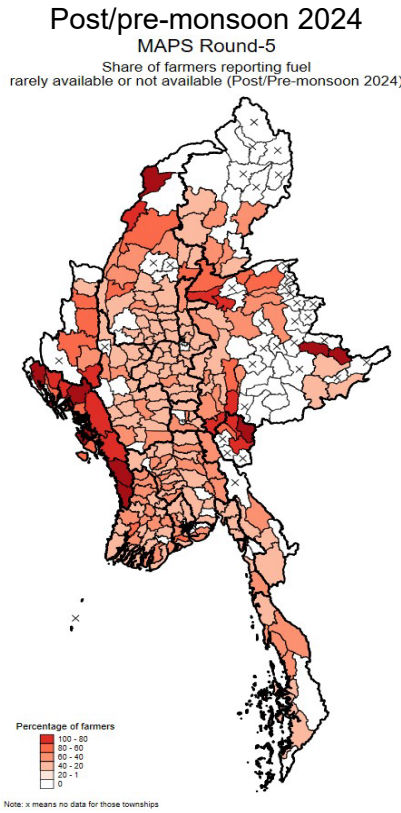
Figure 4: Share of farmers reporting that fuel was rarely or not available in their community, monsoon 2023 and post/pre-monsoon 2024

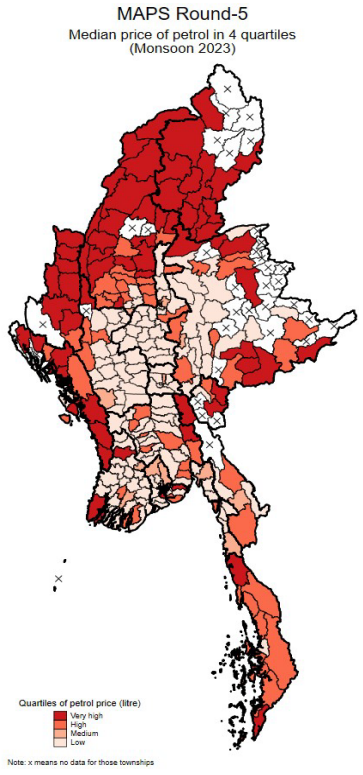


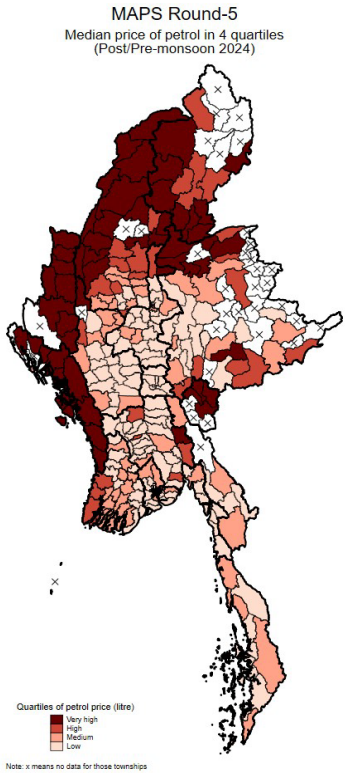
Source: Authors' calculations based on MAPS, monsoon season 2023.

Figure 5: Fuel prices and fuel availability in the monsoon of 2023 and post/pre-monsoon of 2024









Source: Authors' calculations based on MAPS, monsoon season 2023.

5. CROP PRICES

The survey also requested information about farmgate prices at the time of the survey. We compare these prices with the one recorded a year earlier. Table 6 shows that average paddy prices increased by 64 percent while median prices increased by 57 percent. This high price increase in rice markets is seemingly linked to international price changes - rice prices increased by 12 percent from February 2023 to February 2024, as measured by FAO's international rice price index[3] - as well as by the depreciation of the Kyat and changes in trade policies.[4]

We also see substantial price changes for all non-paddy crops. Large price increases were seen for sesame (+35 percent), groundnut (28 percent), and pigeon pea (+109 percent). A low price increase was noted in the case of betel nut (+4 percent), an important crop in the southeast of the country. Maize prices decreased by 10 percent, linked to the insecurity problems on the road to Myawaddy, from where most maize has been exported to Thailand in recent years.

Table 6: Prices for main non-rice crops, January/March 2024 compared to one year earlier (MMK/kg)

	Unit	2024	2023	% change
Paddy	Mean	1,125	685	64.1
	Median	1,053	670	57.1
Maize	Mean	603	676	-10.7
	Median	564	675	-16.4
Groundnut	Mean	2,528	1,975	28.0
	Median	2,632	1,930	36.4
Sesame	Mean	4,311	3,201	34.7
	Median	4,172	3,265	27.8
Betel leaves	Mean	8310	6,075	36.8
	Median	6,135	6,135	0.0
Pigeon pea	Mean	3,546	1,700	108.6
	Median	3,609	1,713	110.7
Betel nut	Mean	5741	5,541	3.6
	Median	4,969	4,908	1.2

Source: Authors' calculations based on MAPS, round 3 and 5.

Figure 6 shows the large variation that we see in paddy prices in the country. Average paddy prices at the state and region level vary from 800 MMK/kg to 1400 MMK, 75 percent higher. These large differences are seemingly driven by high transportation costs and large mobility constraints in the country. Prices are high and low in conflict affected areas – low in Tanintharyi and Kachin and high in Magway and Chin – while the least conflict-affected areas (Ayeyarwady and Yangon) are in the middle. We also compare paddy prices at the farm level with retail prices of rice as well as paddy expressed in rice equivalent prices (Figure 7).[5] They illustrate the rapid changes in both paddy and rice prices over the last four years, as well as the widening gap between these two. This widening

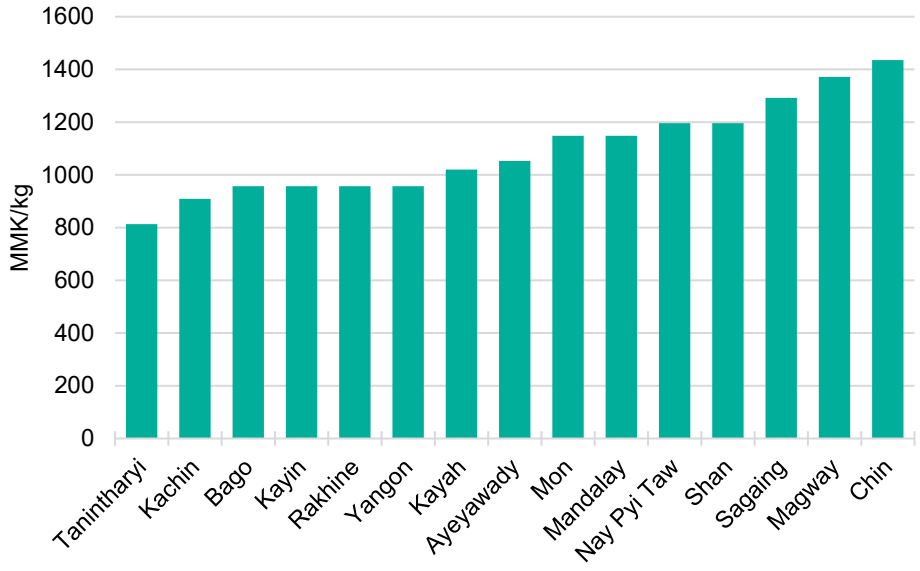
[3] https://www.fao.org/markets-and-trade/commodities/rice/fao-rice-price-update/en/

[4] In February 2023, the official exchange rate stood at 2,100 MMK/USD while the market exchange rate was approximately 2,900 MMK/USD. Under the 35/65 exchange rule (65 percent official exchange rate – 35 percent market exchange rate) that was required to be used for rice export, the effective exchange rate for export in February 2023 was approximately 2,620 MMK/USD. By the beginning of 2024 (January/February), that rule had changed to 90/10 (90 percent market rate at approximately 3,150 MMK/USD and 10 percent at the official rate of 2,100 MMK/USD), implying an effective exchange rate of 3,045 MMK/USD. The combination of both these effects – 1.12 (because of international price changes) times 1.16 (because of depreciation) = 1.30, or an overall change of 30 percent – seemingly only partly explains these observed price increases in local rice markets. In March 2024, the exchange rate trade policy was changed to 65 percent market rate and 35 percent official exchange rate.

[5] Using a milling conversion rate of 0.68.

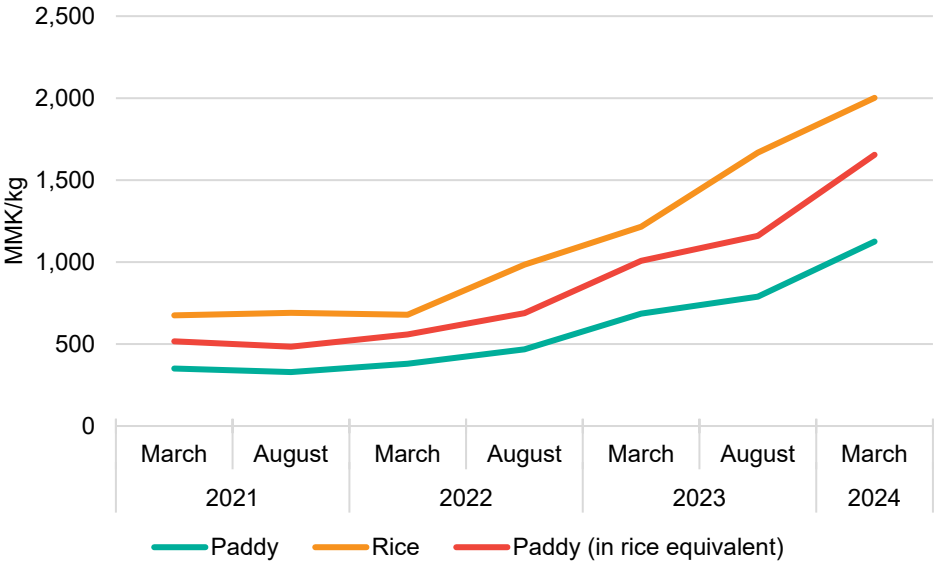
gap partly reflects the increasing transportation and processing costs, as the disparity between paddy prices in rice equivalent at the farmgate and retail rice prices has nearly tripled compared to three years ago.

Figure 6: Paddy prices as reported by farmers, monsoon 2023



Source: Authors' calculations based on MAPS, round 5.

Figure 7: Paddy prices as reported by farmers and retail prices of rice, 2021 to 2024

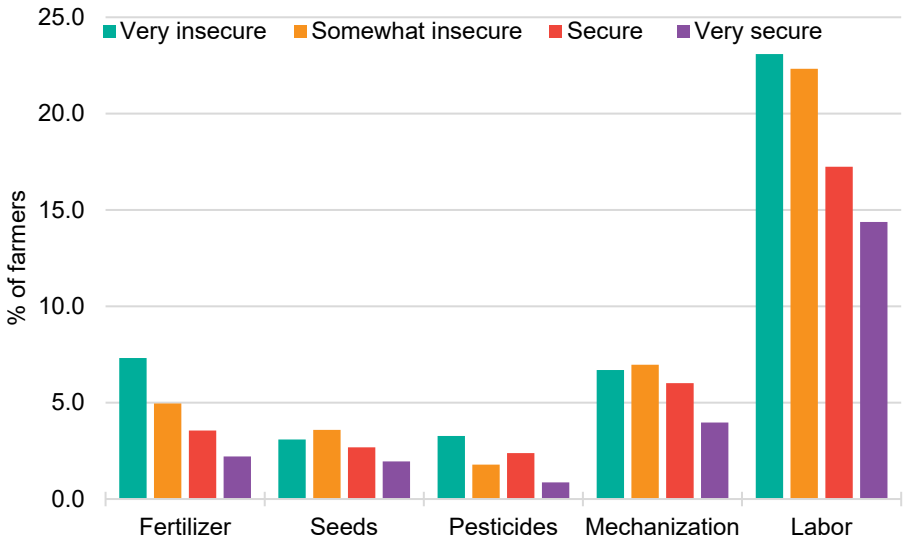


Source: Authors' calculations based on MAPS, round 1 to 5 and food vendor surveys.

6. ASSOCIATES OF AGRICULTURAL INPUT AVAILABILITY AND AGRICULTURAL PRICES

We assess to what extent availability and agricultural prices are linked to insecurity and remoteness, two important measures of vulnerability for farms. We see descriptively that problems with availability of inputs were significantly worse in insecure areas. While 7 percent of the farmers in the 'very insecure' areas lacked access to chemical fertilizer, this was only 2 percent for the most secure areas (Figure 8). The biggest differences of all inputs between these insecurity categories are seen in the case of labor. While 23 percent of the farmers reported a problem of lack of labor in very insecure areas, this was only 14 percent in the very secure areas. As laborers are less willing to work in these areas - and are requiring higher wages as well as to be compensated for the additional risk - there is a significant shortage of laborers, likely impacting agricultural productivity there.

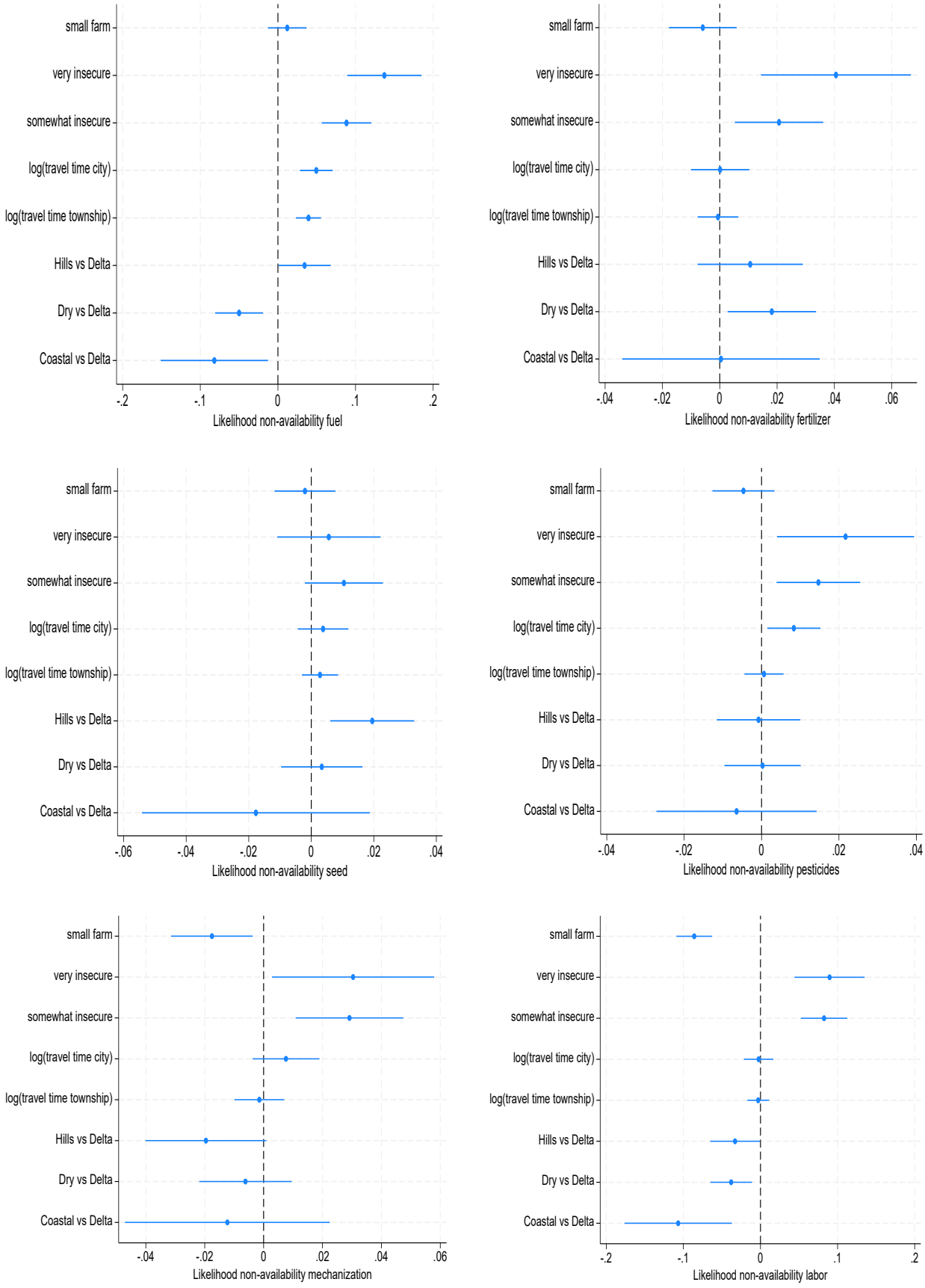
Figure 8: Availability of agricultural inputs and perceived insecurity, monsoon 2023



Source: Authors' calculations based on MAPS, monsoon season 2023.

We further assess, econometrically, characteristics of those farmers that reported problems with access to agricultural inputs using a logit model. We present these associations in Figure 9. For the six inputs looked at, we find that reported insecurity for the area that the farmer resides in is associated with a significantly higher likelihood of lacking access to agricultural inputs (as shown by estimated coefficients being significantly positive). The biggest effects are seen for fuel and labor. Remoteness is associated with less fuel and pesticides being available. We also note that small farms are not disadvantaged compared to bigger farmers. They even indicate that they might have less problems with accessing mechanization and labor. Remote farmers show more problems accessing fuel.

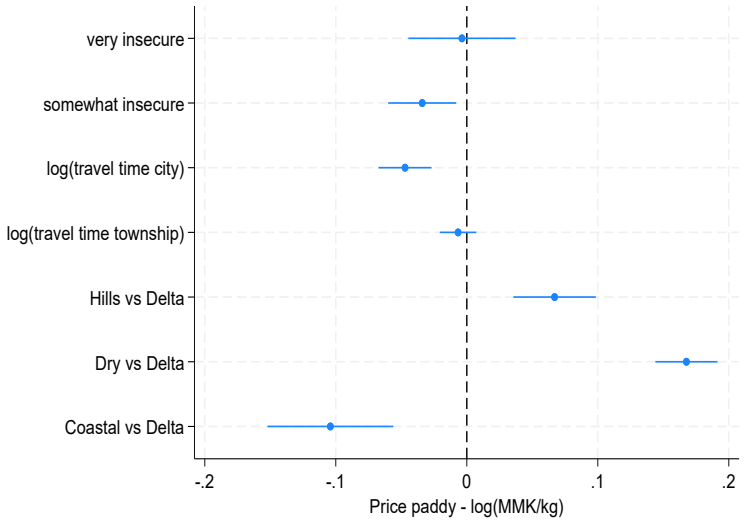
Figure 9: Associates of lack or non-availability of agricultural inputs, MAPS monsoon season 2023



The dependent variable is the share of farmers declaring that they could not find enough of the input or inputs were not available at all during the monsoon.
Source: Authors' calculations based on MAPS, round 5.

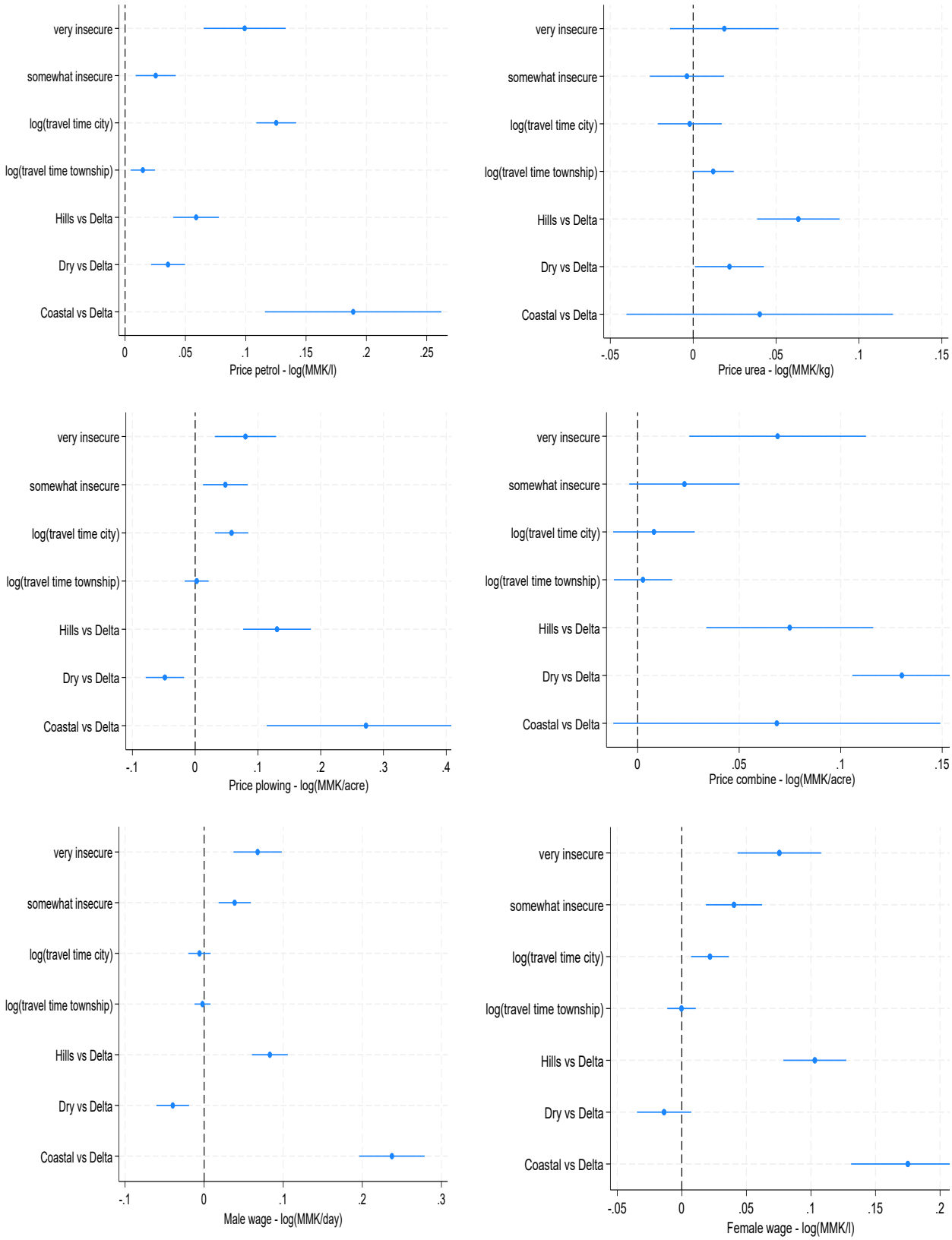
We further look at associates of agricultural prices (Figure 10). Paddy prices show slightly lower prices in insecure areas compared to secure ones, but differences are relatively small (less than 5 percent compared to secure areas). Remoteness from a city of at least 50,000 people is associated with significantly lower prices. The Hill and Mountains Zone and the Dry Zone have significantly higher paddy prices while the Coastal areas have significantly lower ones, ceteris paribus.

Figure 10: Associates of paddy prices, MAPS monsoon season 2023



The very insecure areas are in general associated with significantly higher input costs (Figure 11). Only in the case of urea do we not see a significant cost difference with secure areas but fuel, the costs of mechanization (plowing and combine harvesting), as well as wages are all significantly higher in these areas. Remoteness from a city is associated with significantly higher fuel prices, plowing costs, and female wages. Finally, the Hill and Mountain zones and the Dry Zone have significantly higher fuel and fertilizer costs as well as costs for combine harvesting, ceteris paribus.

Figure 11: Associates of agricultural input prices, MAPS monsoon season 2023



Source: Authors' calculations based on MAPS, round 5.

7. CROP MARKETING AND CHALLENGES

Table 7 presents the share of farmers that tried to sell crops during the monsoon of 2023 and 2022, the main crop they wanted to sell, and the challenges encountered during marketing. Most farmers tried to sell their monsoon crops, but a lower percentage is reported to do so this monsoon season (83 percent) compared to a year earlier (89 percent). Paddy rice was the top crop that farmers wanted to sell – 49 percent of the farmers indicated that this was their main sales crop, compared to 42 percent a year earlier. Other main crops mentioned were maize (8 percent of farmers) and pulses and oilseeds, the most important being groundnut (5 percent), sesame (4 percent) and pigeon pea (5 percent).

We see substantial variation in main crops sold over agro-ecological zones. Rice was the most important main sales crop in the monsoon season of 2023 in the Delta (as reported by 73 percent of the farmers). Rice was relatively much less important in the Hills - compared to other agro-ecological regions - as only 24 percent of the crop farmers reported that this was the main crop that they tried to sell. While rice was the most important crop for marketing in the Dry Zone (40 percent), groundnut (12 percent), pigeon pea (12 percent), and sesame (8 percent) were also relatively important. In the Coastal region, rice is very important (70 percent). Second is betel nut (6 percent).

Farmers were further asked if they had faced challenges selling crops after the monsoon of 2022 and 2023 and if so, what type of challenges. After the monsoon of 2023, 11 percent of farmers indicated that they had faced challenges marketing crops, a similar share following the 2022 monsoon season. Farmers in the Hills and the Coastal areas reported the most challenges of all agro-ecological zones. Of those that reported challenges, low prices for crops were mentioned as a major challenge by 7 percent of farmers. A main challenge this monsoon were also high prices of fuel and transportation costs, complicating the marketing of crops. However, the share of farmers mentioning this constraint was slightly reduced compared to last year. Six percent of the farmers reported that as an important challenge this year compared to seven percent last year. Insecurity during travel, lack of traders, or inability of farmers to reach traders or traders to reach them is also becoming an important issue for some, especially in Coastal areas.

Table 7: Sales of crops and challenges, share of farmers

		2022	2023			
	Unit	National	National	Hills	Dry	Delta	Coastal
Tried to sell crop of monsoon harvest	% yes	88.8	83.1	79.9	81.9	88.9	77.2
Main crop that they tried to sell							
Rice	%	42.1	49.1	23.6	40.0	73.4	70.1
Groundnut	%	5.5	4.8	1.0	11.6	1.3	0.1
Maize	%	9.4	7.8	30.4	0.9	0.1	0.0
Sesame	%	4.4	3.8	1.4	8.4	1.2	0.7
Pigeon pea	%	3.3	4.6	0.9	12.2	0.2	0.0
Betel leaves	%	3.7	2.5	0.0	3.7	3.3	2.2
Betel nut	%	1.4	0.8	0.0	0.1	0.8	6.2
Banana	%	1.5	1.4	1.2	1.1	2.4	0.0
Green gram	%	1.4	0.9	0.1	0.8	1.7	0.0
Chili (fresh)	%	1.4	1.5	0.7	2.3	0.6	3.3
Tomato	%	1.7	1.1	2.0	1.0	0.1	2.9
Cotton	%	1.7	1.3	0.0	3.6	0.0	0.0
Long bean	%	0.8	0.7	0.6	0.3	1.4	0.1
Black gram	%	1.1	0.9	0.1	1.1	1.6	0.0
Rubber	%	1.5	0.9	1.3	0.0	0.9	4.4
Other crops	%	19.3	17.9	36.5	13.0	10.9	9.9
Challenges faced during marketing	% yes	11.1	10.8	16.3	9.1	7.6	14.9
Type of challenges							
Low prices for crops	% yes	7.1	7.1	11.5	5.2	5.0	10.4
High price of fuel / high transportation cost	% yes	7.5	6.0	8.4	4.8	4.9	8.8
Payment problems	% yes	3.0	2.2	3.9	1.5	1.2	4.7
Have to sell crops on credit	% yes	3.3	2.4	4.7	1.5	1.0	4.6
Markets are closed	% yes	2.6	2.4	4.6	2.1	1.4	0.8
Not many traders	% yes	4.9	5.2	8.5	3.9	2.8	11.3
Buyers or traders cannot reach the farm, or I cannot reach them	% yes	5.6	6.0	8.1	5.5	3.5	11.9
Insecurity during travel	% yes	4.6	5.0	7.0	5.0	1.9	12.5

Source: Authors' calculations based on MAPS, monsoon season, 2022 and 2023.

Finally, we asked farmers to estimate their overall sales income from crop farming at the time of the survey compared to the same time a year earlier (Table 8). Strong heterogeneity is seen in the stated evolution of crop sales income. The majority (64 percent) of the farmers indicated that they had higher sales income this year compared to the same period last year. Thirty-one percent of the crop farmers reported an income that was "much higher" (more than 20 percent) while 33 percent indicated a "somewhat higher" income (between 1 and 20 percent). On the other hand, 14 percent of the farmers reported a lower income compared to last year while 23 percent indicated no change. The share of farmers indicating significantly higher incomes is especially high in the Delta and the Dry Zone, likely reflecting the relatively higher importance of paddy in crop sales in this area (because of significant price increases over the last year) as well the relatively good security situation in the Delta region.

Table 8: Stated evolution of sales income from crop farming, monsoon 2023 compared to the monsoon 2022, share of farmers

	Unit	National	Hills	Dry	Delta	Coastal
Much lower now (by 20% or more)	%	7.3	11.4	4.4	5.3	15.6
Somehow lower now (between 1% and 20% lower)	%	6.4	12.7	5.1	3.5	5.0
About the same now	%	22.5	28.2	20.0	20.0	26.8
Somehow higher now (between 1% and 20% higher)	%	32.9	30.2	29.3	37.5	38.3
Much higher now (by 20% or more)	%	30.9	17.5	41.1	33.7	14.2
Total		100.0	100.0	100.0	100.0	100.0

Source: Authors' calculations based on MAPS, monsoon season 2023.

8. CONCLUSIONS

Insecurity is affecting farming as shown by a substantial number of farmers feeling insecure and reporting not to be able to move around - to buy input or sell outputs - without serious concerns of security. 31 percent of the farmers reported feeling 'very insecure' or 'insecure' during the period of the interview. 22 percent of the farmers reported that they could not move around without serious concern for security while 8 percent reported that some agricultural fields could not be cultivated because of conflict in their area. Moreover, an increasing problem in rural areas is confiscation of land: 1.4 percent of the farmers reported this to be a problem in their community. Moreover, ten percent of the farmers indicated that they were afraid to store produce at their home because of the risk of confiscation/destruction.

Limited access to fuel – essential for irrigation and mechanization – was an important constraint to farming in the most recent seasons. At the national level, about a quarter of the Burmese farmers reported that there was no or rarely fuel available in their community during the monsoon and the post/pre-monsoon. The situation is worse in the conflict affected areas of Rakhine, Chin, and Kayah. In the post/pre-monsoon, the situation worsened dramatically in Rakhine, with 81 percent of the farmers reporting that fuel was not or rarely available.

Despite problems with fuel and mobility, agricultural inputs were mostly available during the monsoon season, indicating the resilience of the private sector to supply those, even in these complicated settings. However, there is increasing scarcity of agricultural labor – seemingly linked to increasing migration and insecurity. We also note increasing problems of farmers accessing mechanization. Fertilizer prices decreased this monsoon compared to the last monsoon, but we note price increases for most other agricultural inputs (wages and mechanization).

On the output side, we note high price increases for paddy, the most important crop grown during the monsoon season. We also find that farmers in remote and insecure areas face mostly significantly higher input costs while output prices are similar, or lower, as in secure areas. This suggests that the profitability of farming in these areas is therefore lower, affecting farmers' income and welfare.

The findings in this working paper lead to several implications. First, a robust mechanization service sector is crucial. Labor scarcity poses a significant constraint for a considerable number of farmers, underscoring the necessity for a well-functioning mechanization sector. However, challenges such as fuel availability issues and mobility constraints are impeding the effective functioning of this sector. Second, a pressing need exists for an improved security situation. The escalating insecurity across the country is disrupting the agricultural sector, leading to diminished availability of agricultural inputs and reduced profitability and incomes in insecure areas. Third, enhancing accessibility and marketability of agricultural products in remote areas remains crucial.

Farmers in remote regions face challenges such as low output prices and high input costs, which directly impact their income.

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