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Rice Productivity in Myanmar

Assessment of the 2025 Dry Season and Outlook for the 2025 Monsoon

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We analyze paddy rice productivity and profitability for the 2024 and 2025 dry seasons, using data from the Myanmar Agriculture Performance Survey (MAPS), conducted between August 11 to October 26, 2025. The survey covered plots managed by 872 paddy producers.

Key Findings

- Prices of key inputs – urea and mechanization – increased significantly between the two growing seasons, by 18 and 12 percent on average, respectively. The largest increase was in agricultural labor costs, rising 46 percent for women and 49 percent for men, likely driven by migration linked to the conscription law. In contrast, farmgate paddy prices fell by 15 percent compared to the previous dry season.
- Nominal profits for paddy farmers fell sharply over the last two seasons. The ratio of revenues over monetary costs per acre declined by one-third, making paddy farming the least profitable in the past 5 years.
- National-level rice productivity on farmers' largest rice plot in the 2025 dry season was 7.5 percent lower than the year before. Twelve percent of the rice farmers reported negative effects of flooding during the dry season.
- Paddy production in the 2025 monsoon is expected to be well below normal: (a) Two percent of farmers who cultivated paddy in 2024 stopped in 2025; (b) Seven percent reduced their paddy area compared to a normal year; (c) Forty percent of farmers in the Delta – the country's rice bowl – anticipate lower paddy production this year compared to a typical year. Paddy farmers' incomes are likely to fall sharply this monsoon season, as paddy prices have fallen by 15 percent compared to last year, while input costs have risen by 16 to 21 percent.

Recommended Actions

- Depressed paddy prices, driven by the dual exchange rate system as well as international price developments, have hurt farmer profitability. Aligning domestic paddy prices more closely with international market levels would significantly improve returns for paddy farmers.
- Given the extremely low profitability of paddy this year, default rates in agricultural credit markets are likely to rise. Greater flexibility in repayment terms may therefore be required to mitigate financial stress among farmers.

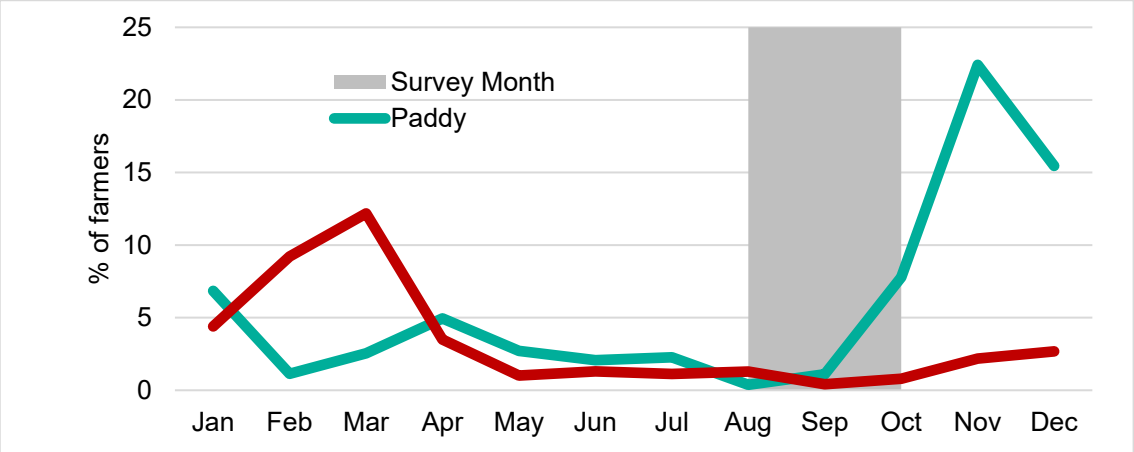
Introduction

Rice is a critical crop for farmers' livelihoods and for food security in Myanmar. As the country's main staple, rice accounts for 51 percent of urban and 62 percent of rural calorie consumption, underscoring its central role in national food security.[1] Recent global commodity market volatility and domestic insecurity have raised concerns about the performance of Myanmar's agricultural sector, particularly rice. This research note assesses farmers' rice productivity during the 2025 dry season—a period that typically contributes less than 20 percent of annual paddy production—using data from the Myanmar Agriculture Performance Survey (MAPS). The survey was conducted between August and October 2025, just before the monsoon season, and covered 872 rice producers across all states and regions. Farmers were asked detailed questions on their background, input use and prices, farm management practices, rice output and prices, and exposure to natural and other shocks during the 2024 and 2025 dry seasons.[2] The findings from this assessment are presented below.

Data

The Myanmar Agricultural Performance Survey (MAPS) is a sub-sample drawn from nearly 12,000 households interviewed by phone during the ninth round of the Myanmar Household Welfare Survey (MHWS), conducted in the third quarter of 2025. The MHWS collected information on household characteristics, welfare indicators, and livelihoods. MAPS followed up with the households identified as crop farmers in the MHWS, focusing specifically on their agricultural activities. This survey was implemented by phone between August 11th and October 26th, 2025, i.e. just before the monsoon harvest period (Figure 1). Of the 4,845 crop farmers interviewed in this MAPS round, 18 percent—or 872 farmers—cultivated rice during the 2025 dry season (Table 1). The majority of these paddy farmers reside in Ayeyarwady (299 farmers) and Bago (136 farmers), reflecting the importance of these regions for dry-season paddy production.[3] Together, these two regions account for about three-quarters of total paddy output during the dry season.[4]

Figure 1. Survey months of the MAPS and typical harvesting months of paddy and pulses in Myanmar



Source: Authors' calculations based on MAPS

[1] Estimated in 2015 (based on Myanmar Poverty, Livelihood, and Consumption Survey).

[2] In this paper, rice refers to rice in paddy form throughout.

[3] Covering the post- and pre-monsoon period, or winter and summer crops, typically crops that are harvested between February and July.

[4] As reported by the Ministry of Agriculture, Livestock and Irrigation.

Table 1. Sample rice farmers, MAPS

	Crop Farmers	Rice Farmers	
		2024	2025
Kachin	17	1	1
Kayah	29	1	2
Kayin	110	20	20
Chin	56	1	0
Sagaing	725	135	135
Tanintharyi	136	4	3
Bago	606	136	136
Magway	580	36	37
Mandalay	579	43	44
Mon	177	21	20
Rakhine	20	0	0
Yangon	221	73	66
Shan	661	68	69
Ayeyarwady	815	303	299
Nay Pyi Taw	113	43	40
Total	4,845	885	872

Source: Authors' calculations based on MAPS, round 7.

To ensure that crop farmers in the sample are representative of the crop-farming population in their agro-ecological zone, a weighting factor was calculated using the methodology applied in the MHWS (MAPSA 2022). In this research note, we focus specifically on information collected for the largest rice plot cultivated by each farmer during the 2024 and 2025 dry seasons. For these plots, data were gathered on input use and farm management practices—including seeds, agro-chemicals, fertilizers, labor, mechanization—and rice output. Farmers also provided estimates of total monetary input expenditures for these plots. Although data was collected from 872 households, caution is warranted when interpreting and extrapolating results to national or agro-ecological zone rice production, as information was limited to the largest plot per farmer. For analysis, the country is divided into four major agro-ecological zones commonly used in Myanmar, and selected results are presented at that level.5 The average farm size among interviewed rice farmers was 6.2 acres (Table 2). The largest farms are found in the Delta region (7.9 acres), while farms in the Hills and Mountains zone are substantially smaller (2.9 acres). Nationally, the largest plot averaged 1.4 acres, with a median size of 1 acre. The vast majority of dry-season rice plots (95 percent) are located in the lowlands.

Incentives for rice cultivation – input and output prices

Input prices for rice farmers have increased over the last two dry seasons (Table 3). Prices for urea—the most widely used fertilizer among rice farmers—rose by an average of 18 percent (median: 26 percent) during the 2025 dry season compared to the previous year. These changes largely reflect international market trends, where fertilizer prices surged significantly. According to World Bank data, Middle East FOB prices increased from USD 335/ton in January 2024 and USD 351/ton in February 2024 to USD 380/ton in January 2025 and USD 436/ton in February 2025, representing increases of 13 percent and 24 percent, respectively.[6] Table 3 also shows that the cost of plowing one acre of land with a four-wheel tractor rose by 13 percent on average. Labor costs—an essential input for paddy farming—experienced the sharpest increases: average daily

[5] Delta (Ayeyawaddy, Bago, Yangon); Coastal (Rakhine, Tanintharyi; Mon); Central Dry (Mandalay, Magwe, NPT, Sagaing); Hills and Mountains (Chin, Kachin, Kayah, Kayin, Shan).

[6] World Bank Commodities Price Data (The Pink Sheet)

wages for hired male and female labor rose by 49 percent and 46 percent, respectively. These substantial increases appear to be driven by migration pressures linked to the conscription law. In contrast to rising input costs, paddy prices fell significantly. At the national level, average farm-gate prices for paddy declined by 15 percent, while the median price dropped by 28 percent (Table 3).

Table 2. Descriptive statistics of rice farmers, MAPS

		Dry Season 2025				
	Unit	National	Hills	Dry	Delta	Coastal
Total number of rice farmers	Number	872	92	256	501	23
Background rice farm						
Average size rice farm - mean	Acres	6.2	2.9	4.2	7.9	5.8
Size largest plot - mean	Acres	1.4	0.9	1.4	1.5	1.1
Size largest plot - median	Acres	1.0	0.6	1.0	1.0	1.0
Land type largest plot						
Upland	%	0.4	0.9	0.4	0.3	0.0
Lowland	%	94.6	97.7	99.6	91.3	100.0
Deep water	%	5.0	1.4	0.0	8.4	0.0

Source: Authors' calculations based on MAPS, round 7.

Table 3. Input and output prices (nominal) in paddy rice cultivation, dry season 2024 and 2025

	Unit	Dry Season		% change
		2024	2025	
Inputs				
Urea price (kg)	Mean	2,003	2,354	17.5
	Median	1,900	2,400	26.3
	Nr. Obs.	753	772	
Costs plowing 1 acre (4-wheel)	Mean	76,475	86,354	12.9
	Median	70,000	80,000	14.3
	Nr. Obs.	427	462	
Daily wage man	Mean	11,034	16,468	49.3
	Median	10,000	15,000	50.0
	Nr. Obs.	820	872	
Daily wage woman	Mean	8,680	12,712	46.4
	Median	8,000	12,000	50.0
	Nr. Obs.	804	872	
Output				
Paddy price (kg)	Mean	902	769	-14.7
	Median	861	622	-27.8
	Nr. Obs.	764	813	

Source: Authors' calculations based on MAPS, round 6 and 7.

Input use

Table 4 provides an overview of average fertilizer use on the largest rice plot during the last two dry seasons. In the 2025 dry season, rice farmers applied an average of 111 kg of fertilizer per acre (Table 4). Despite sharp declines in paddy prices and increases in fertilizer prices, the quantity of chemical fertilizer used remained largely unchanged between the two seasons, with the median stable at 100 kg. It is important to note that fertilizer use is typically higher during the dry season than in the monsoon season (MAPSA 2024). This is because dry-season paddy production often occurs under irrigated conditions, making yields more predictable and reducing uncertainty related to rainfall. As a result, returns to fertilizer use are generally more certain during this period, encouraging farmers to apply higher amounts.

Table 4. Chemical fertilizer use in paddy cultivation (kgs per acre)

	Unit	Dry Season	
		2024	2025
Urea - kg	Mean	70.4	63.4
Ammonium sulphate - kg	Mean	1.3	1.7
Other fertilizer - kg (compound 15_15_15)	Mean	20.3	28.8
Other fertilizer - kg (other compound combined)	Mean	9.2	7.3
Other fertilizer - kg (T super)	Mean	7.0	7.8
Other fertilizer - kg (Potash)	Mean	2.1	2.2
Other fertilizer - kg (Low quality - aukkone)	Mean	0.1	0.2
Total fertilizer – kg	Mean	110.2	111.4
	Median	100.0	100.0

Source: Authors' calculations based on MAPS, round 6 and 7.

Table 5 summarizes the extent to which rice farmers relied on hired labor, draught animals, and mechanization during the 2024 and 2025 dry seasons. Overall, labor arrangements changed little between the two seasons. In 2024, only 20 percent of rice farmers relied exclusively on family labor, while 80 percent used outside help—highlighting the importance of hired labor in paddy farming. In 2025, the share of farmers relying solely on family labor decreased slightly by three percentage points. Mechanization remains central to rice farming in the dry season in Myanmar. Nationally, 96 percent of farmers used a tractor (4-, 3-, or 2-wheel) for plowing, and 81 percent used combine-harvesters for harvesting paddy—slightly lower than in 2024 for the latter. While most farmers accessed mechanization through service providers, 38 percent used their own tractor for plowing, a marginal increase from the previous year. Draught animals, once a key component of rice cultivation, were used by only 19 percent of farmers during the last dry season.

Finally, we assess overall commercial input expenditures on rice, as these provide a useful indication of input intensity in rice production. Table 6 shows that average input expenditures per acre increased by 15 percent during the 2025 dry season compared to the previous season. Notably, larger increases were observed among bigger farms.

Table 5. Labor use and mechanization in paddy rice cultivation

Use on largest rice plot	Unit	Dry Season	
		2024	2025
Non-family labor			
Hired	%	70.0	75.7
Exchange	%	3.4	2.5
Both	%	6.8	4.4
No	%	19.8	17.4
Draught animals			
Hired	%	11.1	9.1
Own	%	9.9	8.8
Both	%	1.4	1.1
No	%	77.7	81.0
Tractor for plowing			
Hired	%	57.5	55.3
Own	%	33.7	38.5
Both	%	2.5	1.9
No	%	6.2	4.3
Combine-harvester			
Hired	%	81.4	78.1
Own	%	2.7	2.4
Both	%	0	0.3
No	%	15.9	19.3

Source: Authors' calculations based on MAPS, round 6 and 7.

Table 6. Monetary input expenditures (MMK/acre) on paddy rice

Use on largest rice plot	Dry Season		% change
	2024	2025	
Mean	621,875	715,510	15.1
Median	600,000	700,000	16.7
By size of farm (mean)			
0-<2 acres	629,416	709,924	12.8
2-<5 acres	578,770	749,013	29.4
5-<8 acres	499,800	668,935	33.8

Source: Authors' calculations based on MAPS, round 6 and 7.

Natural and other shocks

Climatic shocks remain a significant risk for agricultural production. When asked about the incidence of natural or other shocks, 35 percent of rice farmers reported being negatively affected by at least one such shock during both the 2024 and 2025 dry seasons (Table 7). Flooding emerged as a more severe issue in 2025 compared to the previous year, impacting 12 percent of rice farmers versus 6 percent in 2024. In addition, pest infestations, crop diseases, and weed problems were widely reported in 2025, with 15 percent of rice farmers citing these as major challenges.

Table 7. Incidence of natural and other shocks

	Unit	Dry Season	
		2024	2025
Crop negatively affected by any shock	% yes	35.1	35.1
If yes, which one?			
Drought	% yes	2.7	0.2
Poor access to irrigation water	% yes	2.9	1.0
Irregular rain	% yes	4.4	5.6
Heavy rains	% yes	3.7	7.6
Floods	% yes	6.0	12.1
Flash floods	% yes	0.3	2.0
Extreme temperature	% yes	1.3	0.3
Pest, diseases, weeds	% yes	16.8	15.1
Damage by animals	% yes	2.9	6.6
Damaged by rats	% yes	0.7	1.7
Storm	% yes	0.4	0.6

Source: Authors' calculations based on MAPS, round 6 and 7.

Rice productivity

At the national level, paddy rice yields averaged 1,661 kg per acre (median: 1,698 kg per acre), equivalent to 4.0 tons per hectare, during the 2025 dry season (Table 8). This is significantly lower than in the previous dry season (minus 7.5 percent), when yields averaged 1,796 kg per acre. The most notable declines (minus 45 percent) were observed in the Hills region. However, we only have limited number of observations for that agro-ecological zone. Because data were collected only for the largest plot per farmer and we lack reliable information on changes in total paddy area cultivated, we refrain from making national-level production estimates.

Table 8. Paddy rice yields on the largest plot (kgs/acre), dry season 2024 and 2025

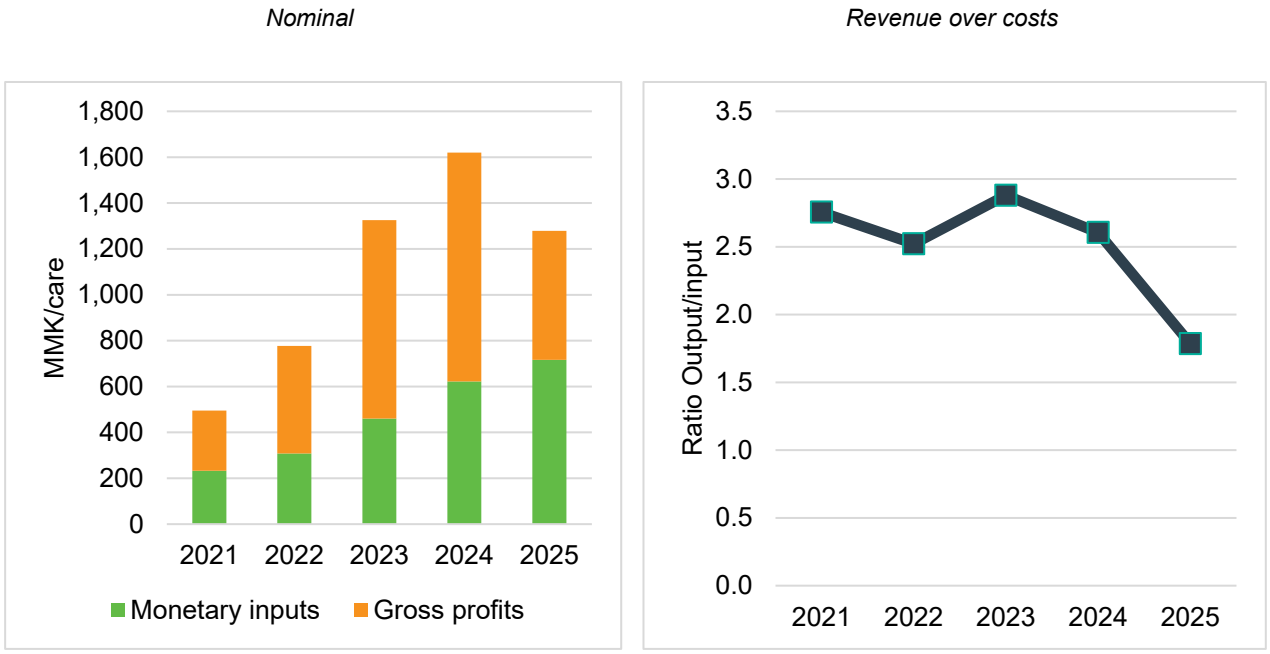
	N	2024		N	2025		Mean
		Mean	Median		Mean	Median	% change
Hills	49	1379	1306	92	755	669	-45.3
Dry	249	1741	1672	256	1624	1672	-6.7
Delta	494	1876	1929	501	1872	1881	-0.2
Coastal	31	1589	1672	23	1461	1672	-8.0
Total	823	1796	1858	872	1661	1698	-7.5

Source: Authors' calculations based on MAPS, round 6 and 7.

Finally, we assess changes in gross profits over the last two dry seasons by combining data on average yields, paddy prices, and commercial input expenditures per acre. Gross revenues per acre declined in the 2025 dry season, falling by 21 percent compared to 2024 (Figure 2). At the same time, commercial input expenditures increased by 15 percent, resulting in a 44 percent drop in nominal gross profits—the returns to family labor and land use—for paddy farmers. Given the high inflation in Myanmar, real profits fell even more sharply. To further examine profitability trends, we calculate the ratio of revenue per acre to monetary costs. This ratio deteriorated significantly in 2025,

declining by 31 percent compared to the previous dry season. It now stands at its lowest level in the past five years, underscoring the severe pressure on paddy farming profitability.

Figure 2. Gross nominal revenue and profits per acre in paddy rice production, dry seasons of 2021 to 2025



Source: Authors' calculations based on MAPS

Outlook for the monsoon of 2025

The MAPS was conducted during the preparation period for the upcoming 2025 monsoon season and included questions on farmers' plans and expectations for the 2025 monsoon paddy harvest. Similar to the dry season, paddy prices for the monsoon were reported to be significantly lower than last year. At the national level, prices were estimated to decline by 15 percent compared to 2024. Table 9 shows notable regional differences: prices are lowest in Myanmar's rice bowl—the Delta—while they are highest in more conflict-affected areas. Paddy prices in the Hills and Mountains were more than double those in the Delta. This difference partly reflects differences in rice varieties grown and partly the high marketing costs of transporting rice from the Delta to these areas, which are not self-sufficient in rice. We also observe large variations in the magnitude of price declines: prices fell by 24 percent in the Delta, compared to only 6 percent in the Dry Zone.

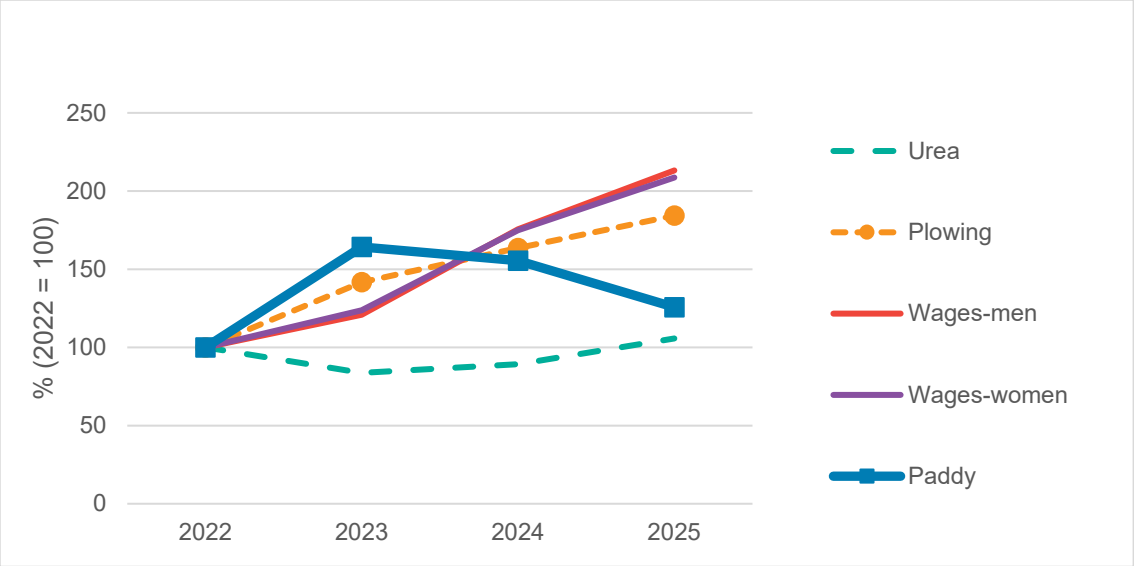
Table 9. Paddy prices (MMK/kg), monsoon 2024 and 2025

	2024			2025			Mean
	N	Mean	Median	N	Mean	Median	% change
Hills	392	1625	1651	346	1411	1435	-13
Dry	1137	1201	1196	985	1127	1196	-6
Delta	1394	884	861	1289	670	574	-24
Coastal	189	1064	957	170	858	813	-19
Total	3112	1148	957	2790	974	813	-15

Source: Authors' calculations based on MAPS round 7.

We next examine how paddy output prices and input costs have evolved over the past four years, using the monsoon season of 2022 as the baseline (index = 100) (Figure 3). In nominal terms, paddy prices in 2025 were 26 percent higher than in 2022. However, prices during the monsoon seasons of 2023 and 2024 were significantly higher than in 2025, indicating a recent downward trend. For inputs, urea prices in 2025 were about 6 percent above 2022 levels, though it is important to note that fertilizer prices in 2022 were exceptionally high due to disruptions caused by the Ukraine–Russia war. In contrast, other input costs have risen sharply: wages for men and women more than doubled compared to 2022, and the cost of plowing increased by 84 percent. Overall, these trends highlight a substantial decline in paddy farming profitability in 2025, as input costs have mostly outpaced gains in output prices. Comparing the 2025 monsoon with 2024, input costs (urea, plowing, and agricultural wages) rose by 16 to 21 percent.

Figure 3. Nominal price evolutions of monsoon prices at the farm, compared to the monsoon of 2022



Source: Authors' calculations based on MAPS

Although it was often too early for farmers to accurately assess the size of the upcoming monsoon harvest—since many were still cultivating their paddy—we asked several questions about their ongoing activities and expectations (Table 10). First, farmers were asked about the area cultivated. Two percent of those who grew paddy in the 2024 monsoon did not cultivate any paddy in 2025. The largest declines were observed in the Delta (-2 percent) and the Coastal zone (-5 percent). Among those who continued cultivation, 7 percent reported reducing their paddy area compared to a normal year. Most attributed this reduction to profitability concerns, citing high input costs and low paddy prices.

We also asked farmers to estimate expected production relative to a typical year. Nationally, 34 percent anticipated lower production, 23 percent expected higher production, and 43 percent foresaw no change. In the Delta—Myanmar's main rice-producing region—40 percent of farmers expected lower production, while only 19 percent anticipated an increase. Few farmers linked reduced production to lower investments (e.g., less labor or chemical use); most attributed it to pests, diseases, and adverse weather conditions. Taken together, these findings—smaller cultivated areas and expectations of reduced production—suggest that monsoon paddy production in 2025 will likely be significantly below normal levels.

Table 10. Outlook for the 2025 monsoon

	Unit	National	Hills	Dry	Delta	Coastal
Paddy area cultivated						
Cultivated paddy in the 2024 monsoon	%	59.9	54.9	54.7	74.2	51.7
Cultivated paddy in the 2025 monsoon	%	58.4	54.3	54.0	72.1	46.8
If cultivated in 2025:						
Reduced paddy area compared to normal	%	6.9	7.5	8.3	5.3	5.7
If reduced area, major reason:						
a. Prices of labor too high or labor not available	%	42.3	42.1	42.2	29.2	94.6
b. Prices of other inputs too high or not available	%	46.3	54.8	47.4	38.0	39.2
c. Prices of paddy too low	%	37.2	28.4	31.4	46.2	70.2
d. Insecurity problems	%	23.3	31.0	29.8	9.6	8.3
Expected monsoon production compared to a typical year						
a. A lot more (>20% more)	%	5.5	5.4	6.7	5.2	2.0
b. A bit more (>5-20%)	%	17.6	22.9	18.6	13.5	14.8
c. The same	%	42.7	40.0	45.3	41.4	45.5
d. A bit less (<5-20%)	%	23.1	23.4	20.9	24.1	26.7
e. A lot less (<20%)	%	11.2	8.3	8.5	15.8	11.0
If lower, main reason:						
a. Lower labor use	%	8.8	9.3	9.1	7.3	13.3
b. Lower chemical use	%	20.3	19.4	15.2	20.8	36.2
c. Diseases and pests		44.3	35.5	34.9	55.5	46.5
d. Weather problems	%	65.0	79.6	72.8	52.0	61.6
e. Earthquake-related problems	%	9.1	11.3	9.5	8.7	4.9
f. Other	%	14.5	12.5	20.4	12.8	8.2

Source: Authors' calculations based on MAPS, round 7.

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