



Monitoring the Agri-food System in Myanmar

Mechanization Service Providers – July 2024 survey round

A phone survey was conducted in July 2024 to understand the effects of political instability on Myanmar's mechanization service providers (MSPs) that are crucial for enabling smallholder farmers to undertake a range of power-intensive farm and post-harvest operations in a timely manner. This note reports on the results of this survey, which is the 12th in a series of phone surveys, as well as on trends from earlier surveys.

Key Findings

- The observed conditions on the ground in the 2024 monsoon planting season show generally robust demand but also continuing challenges for MSPs in Myanmar.
- The areas prepared by MSPs in the 2024 monsoon seasons and harvested in the 2024 dry season are largely comparable to 2023 seasons.
- Price increases, which had already been observed for machines and parts, have extended to fuels, repair services, and operators.
- Most MSPs have been able to pass on such cost increases to farmers by charging significantly higher hiring fees (25 and 50 percent higher for plowing and combine-harvesting respectively), and most MSPs who stayed in business have reduced debts and saw improvement in their financial standings
- However, a significant share of MSPs also faced challenges in meeting demand due to supply-side cost shocks and/or left the business altogether. Access to new machines, attachments and spare parts are deteriorating rapidly, threatening the supply of mechanized services.
- Persistent rises in costs, combined with political instability, remain a significant source of uncertainty for MSPs, which requires close monitoring for the remainder of the 2024 season, in addition to the implications on farmers welfare and crop production.

Recommended Actions

- To mitigate the increase in costs for mechanization services, address issues with fuel costs and availability by facilitating the import and distribution of fuel.
- Reduce bottlenecks in the movement of MSPs, through improved transparency in security checkpoints, reduced permissions required, and improved security on rural roads.
- Provide trainings for machine operations to alleviate the shortage of machine operators, with emphasis on service quality to maximize farmer productivity and ensure machine health.
- Access to formal credit through the MADB or through microfinance institutions should be expanded to help ensure farmers' access to affordable mechanization services, as farmers are likely to continue facing significantly increased costs in the 2023 season. The rising fees of mechanized services for farmers can reduce monsoon season production.

Background

Agricultural mechanization service providers (MSPs) are crucial for enabling smallholder farmers to undertake a range of power-intensive farm and post-harvest operations in a timely manner. These operations are essential for food production and farm income. MSPs are capital-intensive operations. The economic viability of these businesses is highly sensitive to (1) capacity utilization, which generates the cash flow needed to repay equipment loans; (2) prices of imported capital goods, including machines, equipment, and fuels; and (3) availability of machine operators, among others. Hence, the operations of MSPs are sensitive to restrictions on mobility and trade.

This Research Note focuses on the impacts of the ongoing political crisis on MSPs from the latest phone survey conducted in July 2024. This note primarily covers the activities of tractor service providers (TSPs) in the 2024 monsoon planting season and combine harvester service providers (CHSPs) that completed harvesting from the dry season. The results of previous rounds were published in [Myanmar Strategy Support Program Research Notes 07, 12, 17, 39, 43, 59, 62, 76, 82, 94, and 98](#). As MSP operations continue to be affected by market disruptions, understanding the situation on the ground is critical to support measures to ensure farmers' access to MSP services.

Sample size and location

In the 12th survey round, conducted during the monsoon planting season of 2024, a total of 500 mechanized service providers (MSPs) were interviewed: 306 tractor services providers (TSPs), 154 combine harvester service providers (CHSPs), and other MSPs who operated neither tractors nor combine harvesters during the monsoon planting season of 2024 (NSPs). Among these, 250 (170 TSPs and 80 CHSPs) were also interviewed in the same season in 2023 and operated the same types of MSP business in both rounds (Table 1). This note focuses primarily on the panel sample of 170 TSPs and 80 CHSPs. Although both are sub-samples, their information can provide insights on changes over time.¹

Table 1. Summary of MSPs in survey round 11, based on responses from previous rounds

Type of MSPs	Sample	Panel MSP (in 2023 and 2024)	Other MSP who had different businesses in MPS 2024 and MPS 2023, including newly interviewed MSP ^a
All MSPs	500	250	250
TSPs	306	170	136
CHSPs	154	80	74
NSPs	40	0	40

Note: MSP=Mechanization service provider; CHSP=Combine harvester service provider; TSP=Tractor service provider. NSP = Non-operating service providers. MPS = Monsoon Planting Season.

^aThey either did not operate MSP in 2023 or switched from TSP to CHSP or from CHSP to TSP between 2023 and 2024.

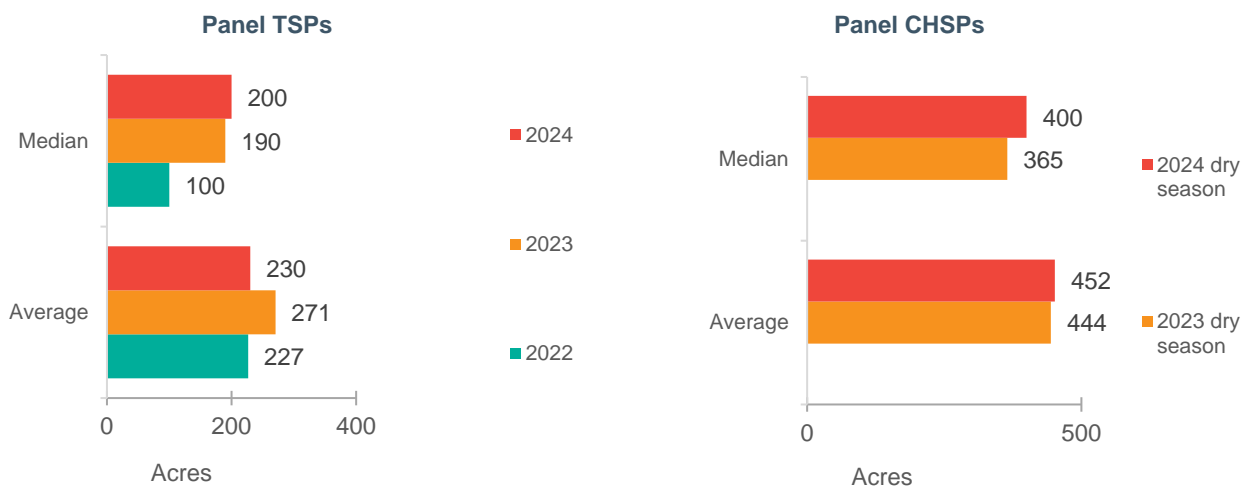
Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2021, 2022, 2023 and 2024.

¹ The sample of MSPs is not representative at national or at state/region levels. However, we discuss heterogeneity, where appropriate, to highlight the potential importance of machine-specific or region/state-specific support measures. We highlight such heterogeneity where, given the sample sizes, differences across MSPs are statistically significant.

Acres prepared by tractors during the monsoon planting season and harvested by combine harvesters during the dry season in 2024 compared to 2023 and earlier years

Figure 1 shows the areas prepared by TSPs in the 2024 monsoon planting season compared to those in earlier years. At the median, TSPs provided services to 200 acres in 2024. The area is generally similar to the area prepared by TSPs during the monsoon planting season in 2023. Similarly, areas harvested by CHSPs in the 2024 pre-monsoon season are also comparable to those in the 2023 season.

Figure 1. Area prepared by TSPs in the 2024 monsoon seasons and harvested by CHSPs in the 2024 dry season compared to previous years, by median and average acres

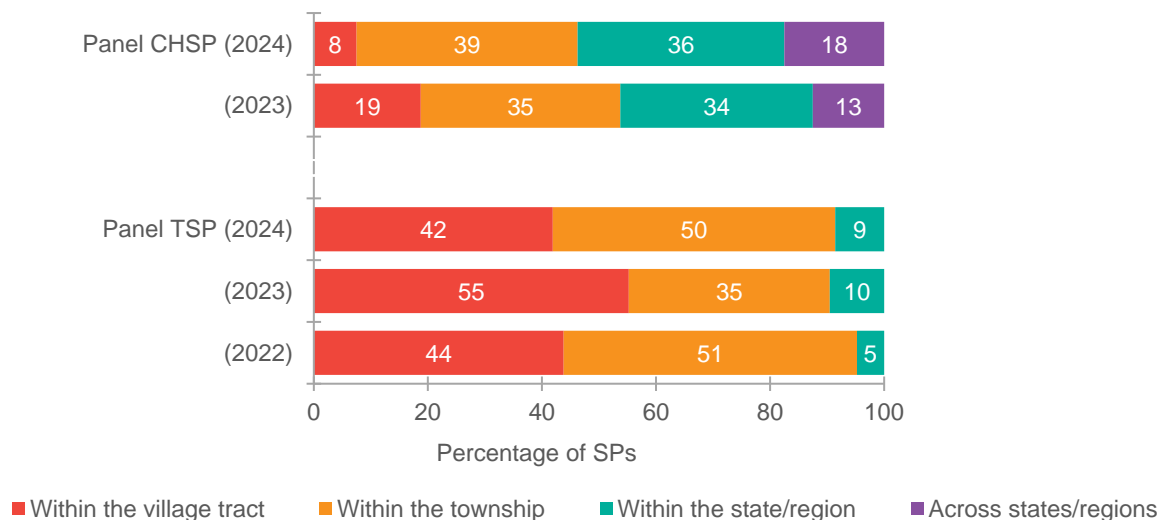


Note: TSP=Tractor service provider. CHSP = Combine harvester service providers.
Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

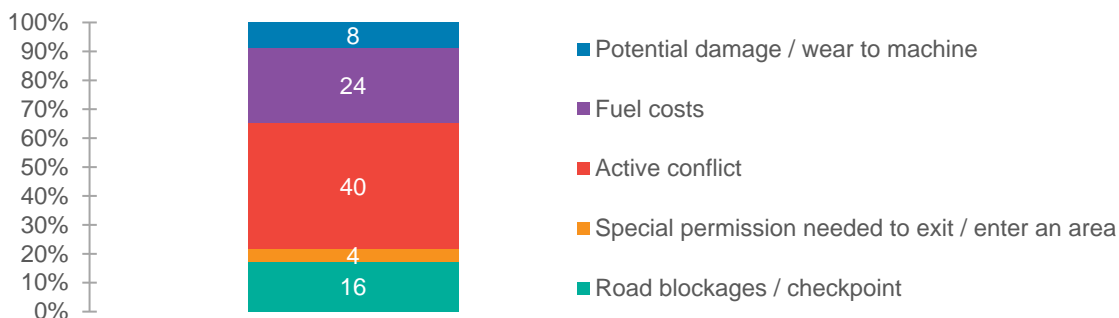
Reported effects of crises on mechanization service providers

Significant shares of TSPs and CHSPs continue to feel restricted to operating solely within their village tracts or townships during the 2024 monsoon planting season, though there has been some improvement since the previous year (Figure 2). The share of TSPs who feel their movement is confined to village tracts remains 42 percent, down from 55 percent in 2023 (top panel). Among CHSPs, while a slightly higher share (54 percent) are operating beyond the townships, up from 47 percent in 2023, but nearly half (46 percent) are still restricted to operating within the township only. For those who reported operating in smaller areas than in 2023, MSPs reported active conflict and rising fuel costs as constraining factors (bottom panel).

Figure 2. Geographic areas of operation for MSPs compared to 2023



Major reasons for movement restrictions

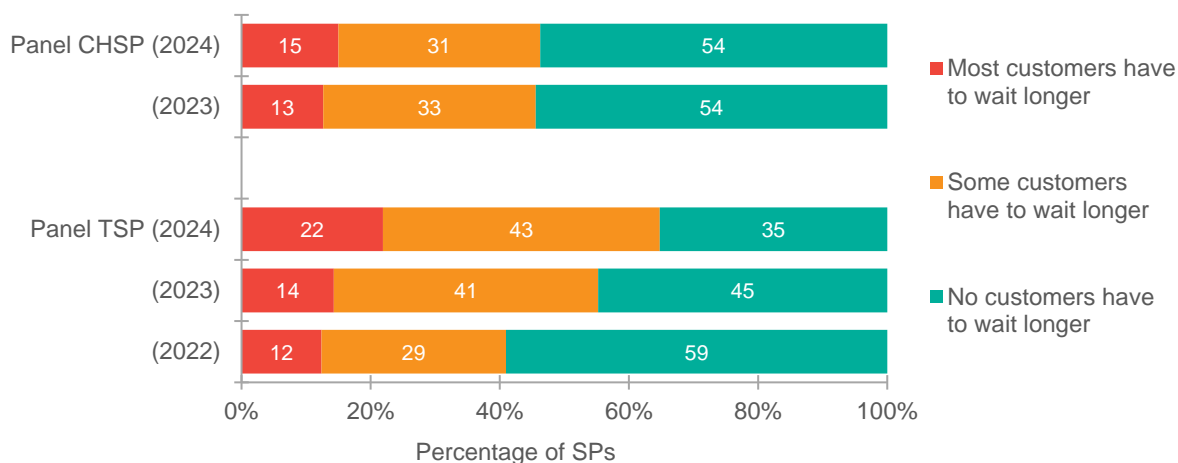


Note: TSP = Tractor service providers; CHSP=Combine-harvester service providers.
 Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2024.

Mechanization services provision

Timely access to mechanization is important to maximize ideal soil conditions at planting time and avoiding weather-related losses at harvest time. The timeliness of services remains a concern in the 2024 monsoon planting season (Figure 3). The percentage of TSPs reporting that their customers had to wait longer for services compared to earlier years has increased to 65 percent. For CHSPs, the percentage has changed little but remains close to 50 percent.

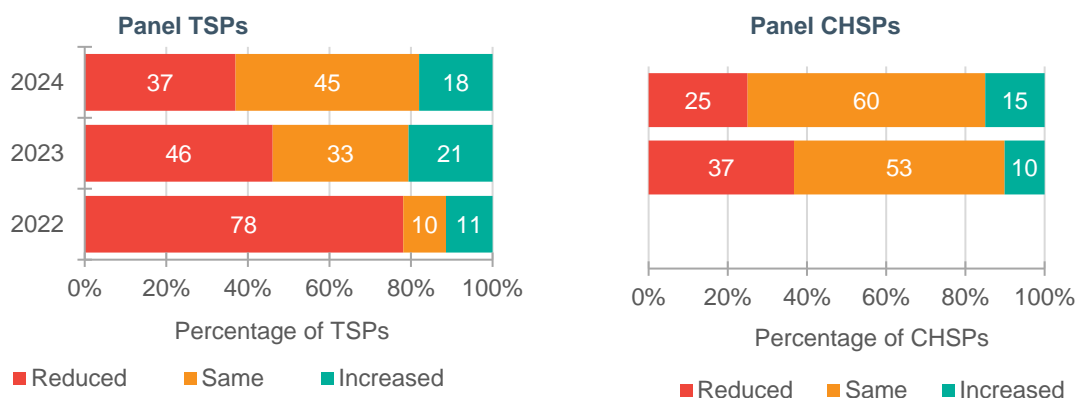
Figure 3. Percentage of MSPs reporting worsened service provision timeliness compared to the previous year, by machine type and survey round



Note: TSP = Tractor service providers; CHSP=Combine-harvester service providers.
Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

In 2024, a greater share of TSPs and CHSPs perceive the demand for land preparation and harvesting services to be at the same level as in the previous year, compared to 2023 or 2022. However, 37 percent of TSPs and 25 percent of CHSPs still perceive that demand is still lower (Figure 4). These patterns are consistent with Figure 1 showing general stability in areas served between 2023 and 2024.

Figure 4. Percentage of panel TSPs reporting lower demand for services relative to previous year

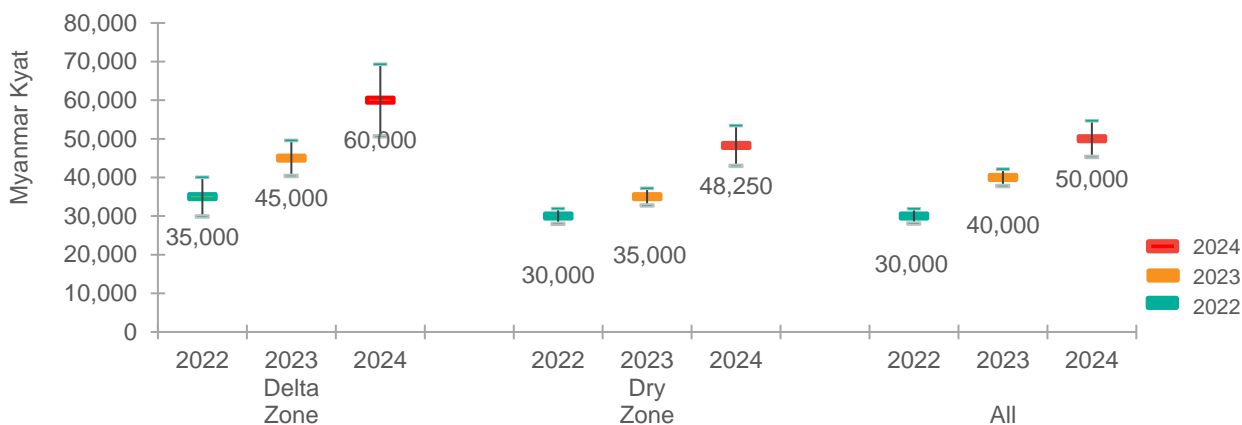


Note: TSP = Tractor service providers; CHSP=Combine-harvester service providers.
Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

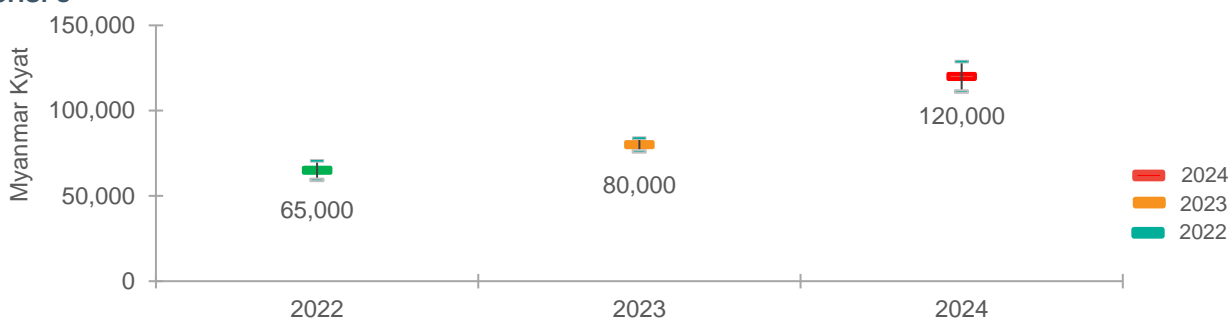
Nominal hiring charges for TSPs in the 2024 monsoon planting season were significantly higher than those in 2023. At the median, hiring charges (per acre) in 2024 were 50,000 MMK, 25 percent higher than the 40,000 MMK charged at the same time in 2023 (Figure 5). Hiring charges were slightly higher in Delta than in the Dry zones during the 2024 monsoon planting season. Similarly, hiring charges for CHSPs in 2024 were 50 percent higher at 120,000 MMK per acre compared to 80,000 MMK in 2023.

Figure 5. Median charges per acre for land preparation service among panel TSPs and CHSPs, by region (nominal value)

TSPs



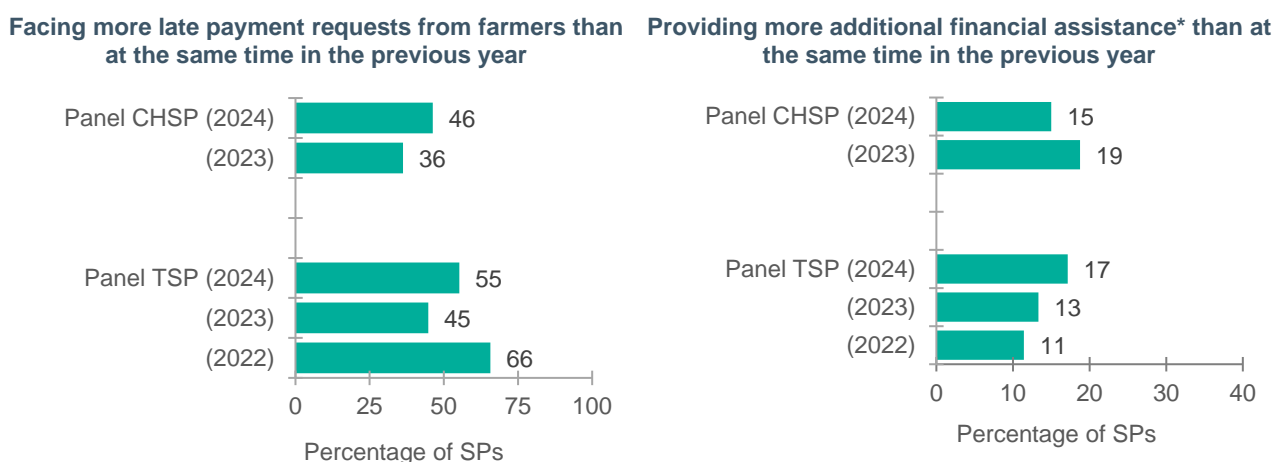
CHSPs



Note: TSP = Tractor service providers. CHSP=Combine-harvester service providers.
 Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

The share of MSPs receiving requests from farmers for late payment has increased slightly in 2024 after significant drop in 2023 (Figure 6). The share of TSPs receiving late payment requests is 55 percent in 2024, which is higher than 45 percent in 2023. Similarly, the share for CHSPs has increased to 46 percent. These increases occur despite 15 ~ 17 percent of MSPs also providing additional financial assistance to customers (right panel). This may be an indication that farmers are facing increasing input costs in the 2024 monsoon planting season, as seen in the increased hiring fees that MSPs have had to charge in 2024 compared to 2023.

Figure 6. Percentage of MSPs receiving late payments requests from farmers and providing additional financial assistance

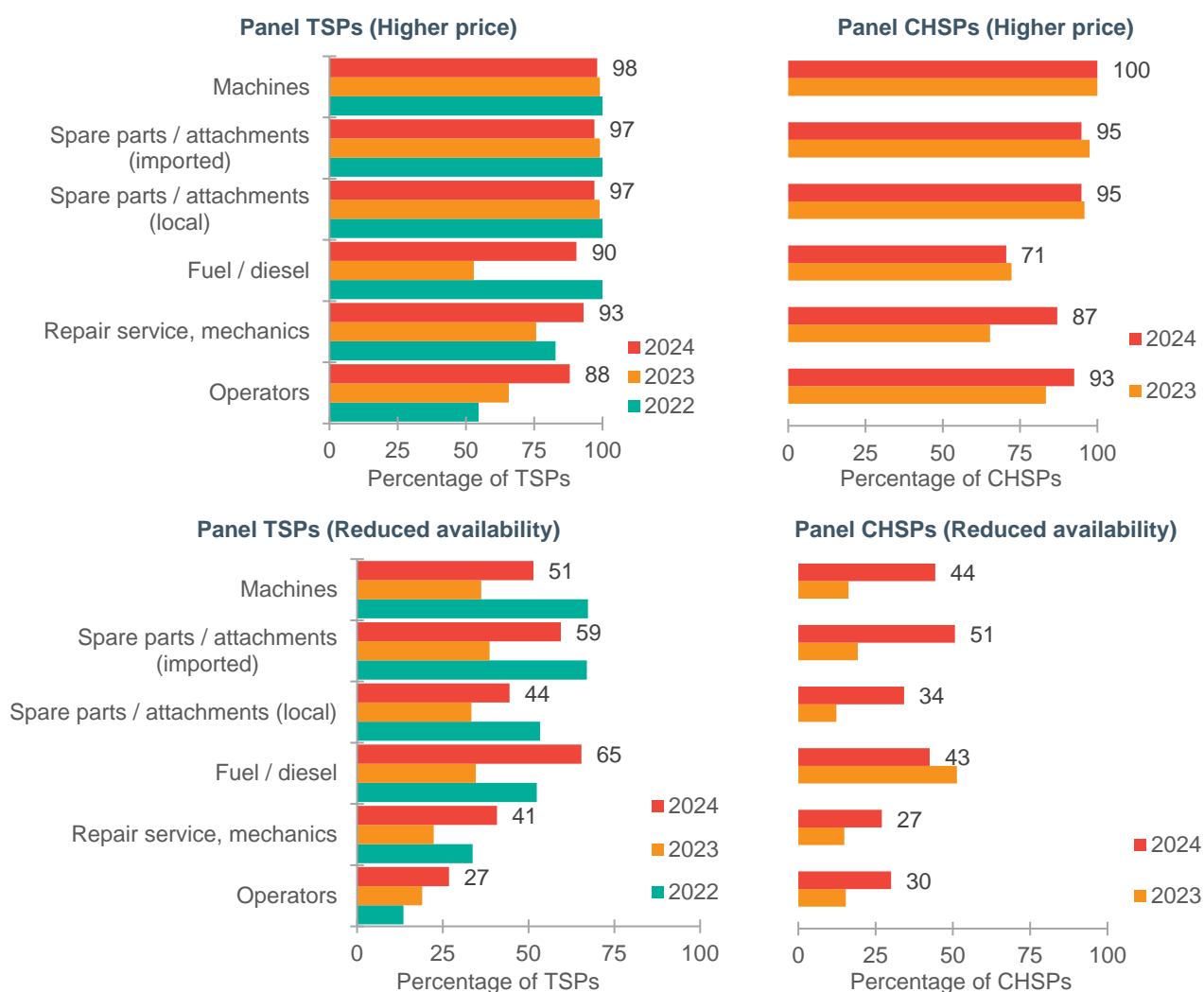


Note: *Beyond acceptance of late payments. TSP = Tractor service providers; CHSP=Combine-harvester service providers.
 Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

Supply-side factors

On the supply side, almost all MSPs continued to experience increased prices for machines, spare parts, and attachments (both imported or locally manufactured) (Figure 7). Rising prices are also becoming more common for operators. The increases in prices for fuels/diesel, repair services/mechanics, which moderated a bit in 2023, also accelerated again in 2024. Furthermore, the shares of MSPs reporting reduced availability of these machines, services and fuels have bounced up in 2024, after a period of moderation in 2023. The combined effect of higher prices and reduced availability likely contributed to a significant surge in operating costs and hiring fees.

Figure 7. Share of TSPs and CHSPs reporting higher price or reduced availability compared to one year earlier, by survey round

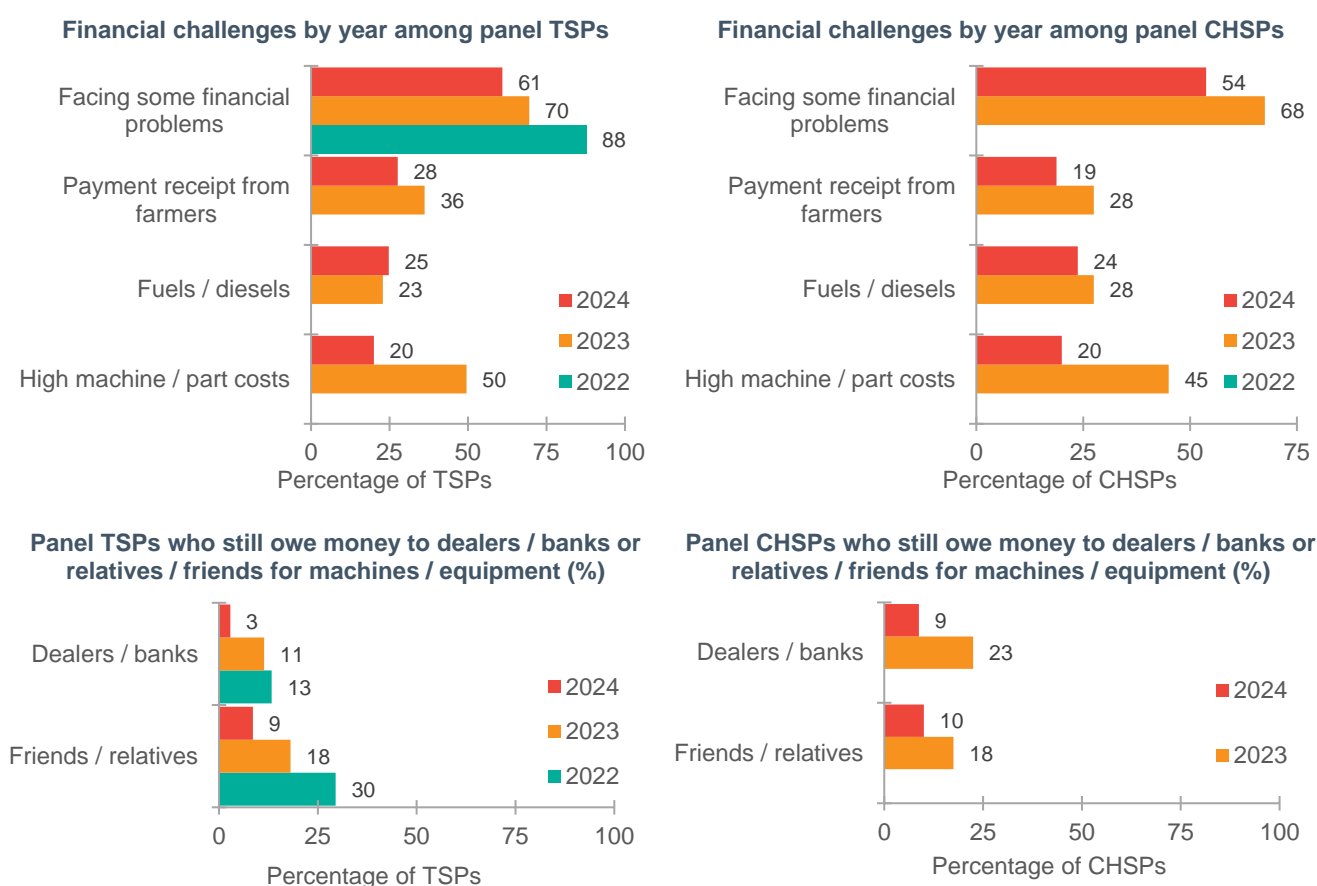


Note: *Beyond acceptance of late payments. TSP = Tractor service providers; CHSP=Combine-harvester service providers.
 Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

Financial effects on business

While a significant share of MSPs continue to experience financial challenges, the proportion has declined slightly in 2024 (Figure 8, top charts). Both TSPs and CHSPs remain concerned about various financial issues, including fuels/diesel, timely payment receipts from farmers, and high machine/part costs. However, the shares of TSPs and CHSPs reporting any financial challenges declined to 61 and 54 percent, respectively, both from about 70 percent, indicating some MSPs are facing fewer financial difficulties. The share of MSPs who still owe loans for their machines/equipment has also declined in 2024 (Figure 8, bottom charts). While the causes of these changes warrant further investigation, farmers' willingness to pay significantly higher fees for the services, along with accumulated earnings over the years, may have contributed to an improvement in MSPs' financial status. Nonetheless, if the increase in cost is passed on to farmers (potentially due to limited alternative for mechanization services), it may have negative effects on farmer welfare and productivity.

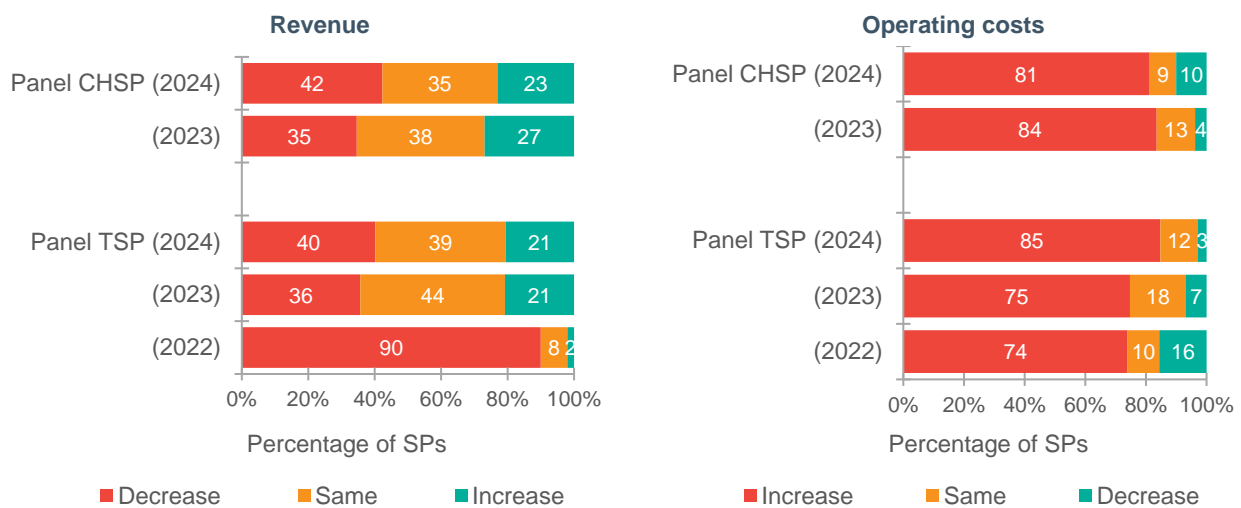
Figure 8. Percentage of TSPs reporting financial challenges



Note: TSP = Tractor service providers; CHSP=Combine-harvester service providers.
Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

MSPs' perceptions of their financial prospects toward the end of the year continued to be mixed (Figure 9). In 2022, only about 10 percent of TSPs expected their revenues to be similar to or better than the previous year's. This share rose to about 60 percent in 2023 and has remained relatively stable in 2024. At the same time, 85 percent of TSPs expect their operating costs to increase in 2024, up from 75 percent in 2023. This concern is also high among CHSPs, at around 80 percent.

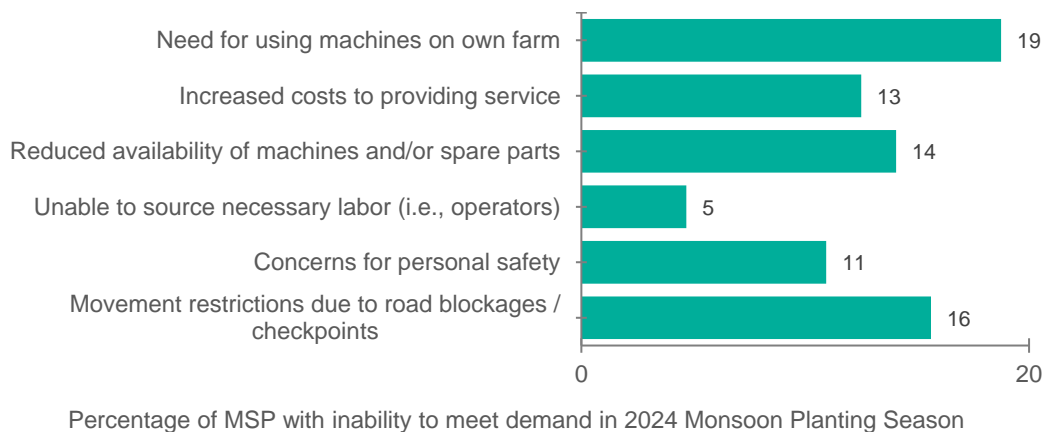
Figure 9. Service providers' expectations of revenues and operating costs relative to previous season, percentage



Note: *Beyond acceptance of late payments. TSP = Tractor service providers; CHSP=Combine-harvester service providers.
 Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2022, 2023 and 2024.

Even though costs of service provision have increased in the 2024 monsoon season, more than 20 percent of TSPs reported being unable to meet the demand. Among them, a significant majority cited the need to use machines on their own farms as a primary reason, along with movement restrictions and reduced availability of machines, parts, and repair services (Figure 10).

Figure 10. Key reasons for inability to meet the demand in 2024 monsoon land preparation

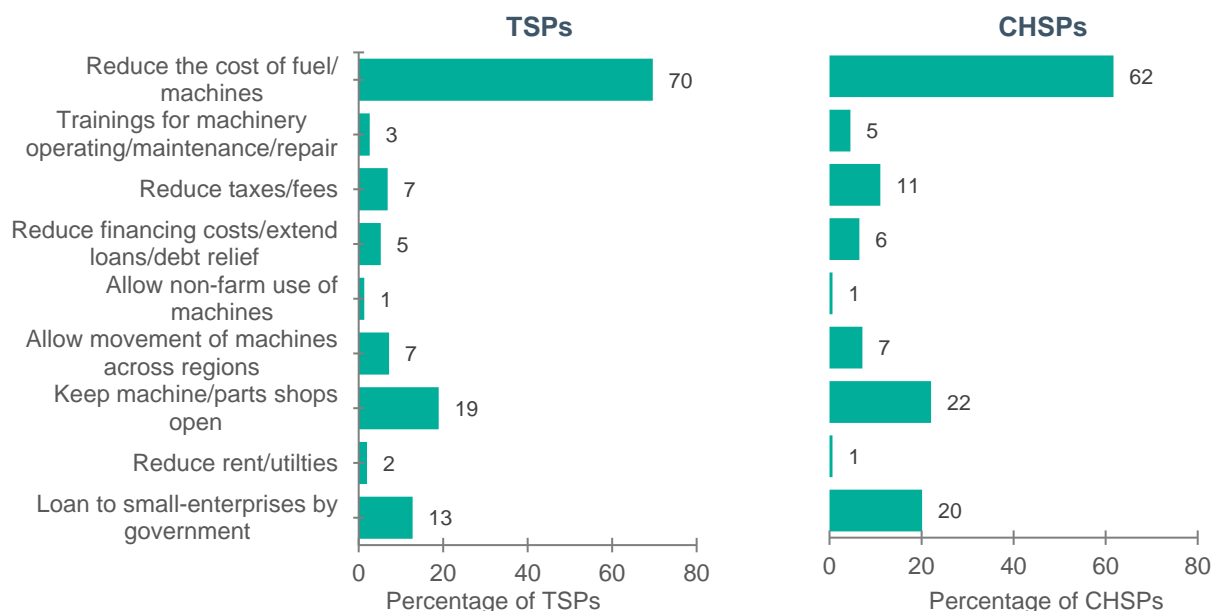


Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2024.

Measures to support MSPs

As in earlier survey rounds, respondents were asked for their opinions on which measures would be most beneficial for their businesses to continue operating during the political crises (Figure 11). Respondents were asked to list up to two options.

Figure 11. MSP perceptions on effective measures to mitigate the adverse impacts of political crises on their businesses



Note: *Beyond acceptance of late payments. TSP = Tractor service providers; CHSP=Combine-harvester service providers. Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2024.

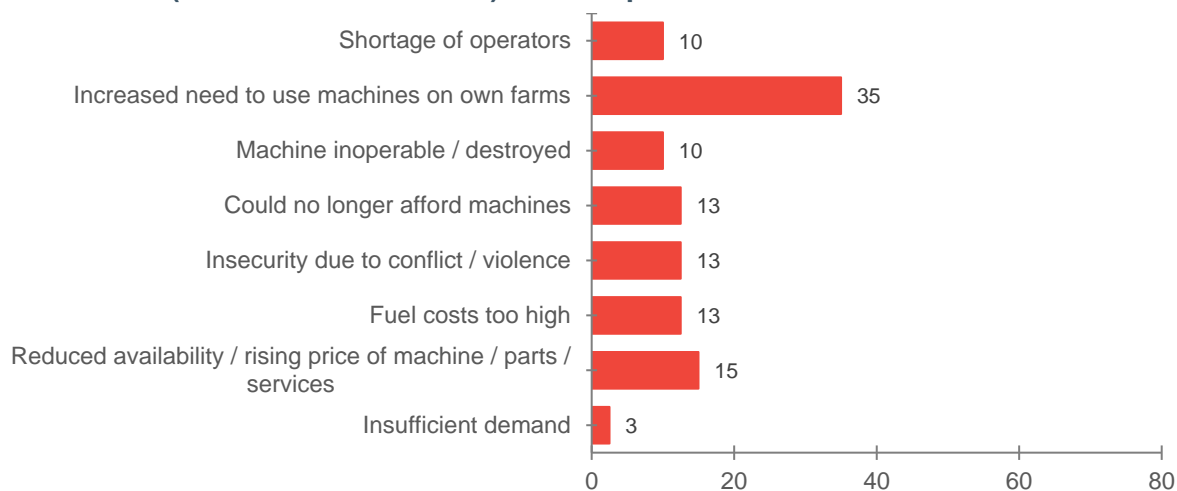
A significant majority of both TSPs and CHSPs reported that policies aimed at reducing fuel prices and improving fuel availability are critically important. Additionally, respondent expressed a desire for policies that extend new loans, including those for small enterprises, and that keep machine and parts shops open, as well as increase the overall supply of machines and equipment in the market.

Measures to support the resumption of MSPs

Strengthening MSPs requires not only supporting those currently in business but also assisting those who suspended their operations due to the crisis since 2020 and are willing to resume. To gain insights, this survey round traced 40 MSPs (29 TSPs and 11 CHSPs) who have suspended their business at some point since 2019 and whom we could still contact by phone. Although the sample is small, some important patterns are worth noting.

About half of these MSPs last operated their business in 2022 or earlier. Some suspended their operations due to the increased need to use machines on own farms (Figure 12). However, a majority suspended their businesses due to reduced availability and rising prices of machines, parts, and repair services, as well as fuel costs, shortage of operators, and insecurity associated with conflict and violence. In contrast, those who suspended their business after 2021/2022 did so primarily due to reduced availability and rising prices of machines, parts, and repair services, fuel costs, and insecurity. Thus, supply-side cost increases have pushed many MSPs out of business in recent years.

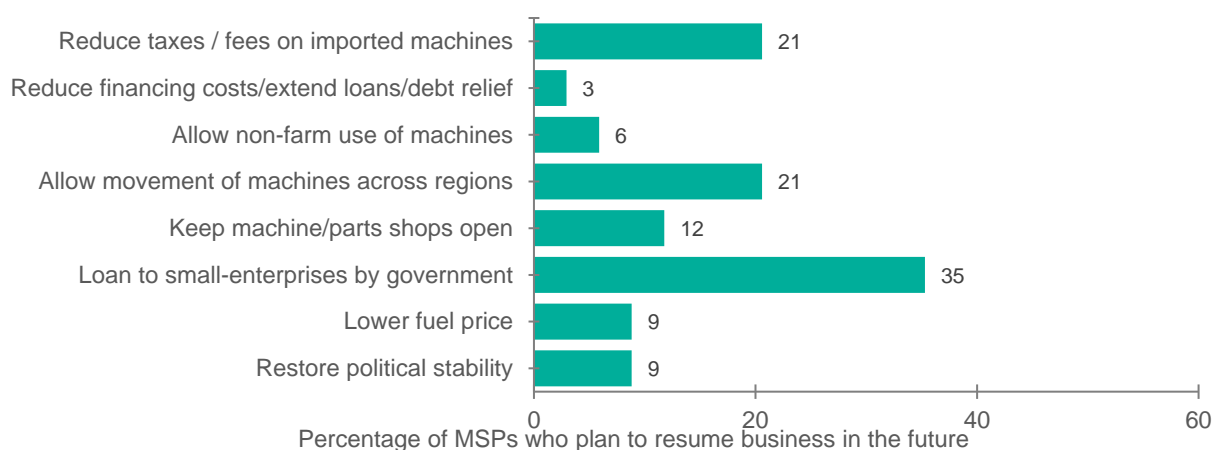
Figure 12. MSP (both TSPs and CHSPs) who suspended business due to various reasons



Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2024.

Most of the 40 MSPs surveyed (34 out of 40) still own machines, and about half indicate they plan to resume business within five years. Among these 34 MSPs, the primary support needed includes extended loans for small enterprises, reduced taxes and fees on imported machines, and facilitating machine movement across larger geographical areas (Figure 13).

Figure 13. Preferred support for MSPs to resume business in the future



Source: Mechanization Service Provider Phone Survey– Monsoon Planting Season 2024.

Discussion

The conditions observed during the 2024 monsoon planting season indicated some improvement, given generally robust demand for mechanized services. However, MSPs in Myanmar continue to face significant challenges.

Rising prices and reduced availability on the supply-side are becoming increasingly problematic, particularly fuel. In the 2023 monsoon season, the increase in mechanization hiring prices was partially linked to the increasing price and declining availability of fuel, and a quarter of farmers reported there was no or rarely fuel available in their community (MAPSA, 2024b). This has likely continued to drive mechanization service prices up, as fuel prices increased by 13 percent between December and April 2024 due to foreign currency shortages, and fuel shortages continued throughout the country (World Bank, 2024).

While most MSPs have managed to pass these cost increases on to farmers by charging higher hiring fees, many still struggle to meet demand, and some have exited the business altogether. A growing number of MSPs have reported needing to use machines on their own farms as a primary reason for not meeting demand or exiting the business. This may indicate that farming has become a more profitable endeavor, due to the high operating costs. High international prices and the depreciation of the Myanmar Kyat resulted in a doubling of profits for rice farmers in nominal terms (43 percent in real terms) in the 2023 monsoon season compared to the year prior (MAPSA, 2024a).

Moreover, the increasing insecurity is likely increasing risks to machines and personal safety. Thirty-two percent of farmers reported feeling insecure in the areas that they reside in, and 22 percent indicated they could not move around without serious concerns for security between January and March of 2024 (MAPSA 2024a). The areas impacted by conflict have continued to expand throughout the country since the military offensive by the ethnic armed organizations started in October 2023. This has likely contributed to reduced mobility for MSPs and provided a disincentive for them to travel and provide services.

At the same time, despite higher prices, many farmers continue to hire mechanization services, possibly due to limited cheaper alternatives such as hired labor or draft animals. In the 2023 monsoon season, an increasing number of farmers (18 percent) reported problems finding sufficient laborers (MAPSA 2024b). This was prior to the announcement of the military service law which has led to mass migration of young men in recent months. The lack of alternatives combined with the rising cost of mechanization services adds additional strain on farmers who are already facing increased input prices and marketing challenges (MAPSA 2024b).

It's also important to note that this data was collected prior to the severe flooding caused by Typhoon Yagi. The impacts on demand and supply of services for harvesting the monsoon crop and preparing lands for the post-monsoon crop is still unknown and warrants careful attention in the future rounds of this survey.

Persistent cost increases combined with political instability present a significant source of uncertainty for MSPs, and addressing these challenges is crucial to having a well-functioning mechanization sector which farmers are dependent on. To ensure availability of mechanized services to farmers, the following measures are recommended:

- **Addressing issues with fuel costs and availability:** fuel prices and availability are likely driving higher mechanization service rates and reducing availability of services to farmers. Facilitating the import and distribution of fuels will be critical to improving costs and availability of mechanized services.
- **Improve the mobility of MSPs:** there is a pressing need to improve the security situation. Reducing bottlenecks in the movement of MSPs by enhancing transparency at security checkpoints, minimizing required permissions, and improving the security situation on rural roads may help in the short-term.
- **Facilitate the import of machines, attachments, and spare parts and ensure access to repair services:** remove import restrictions and ensure access to foreign exchange for importers to improve the availability of machines, attachments, and spare parts, and keep maintenance and repair services operational.
- **Training for machine operators:** Provide training for machine operators to alleviate the shortage of machine operators. These programs should emphasize the importance of service quality in helping farmers achieve better crop yields and overall productivity, as well as in maintaining the health of their machinery.

- **Expand credit access:** Increase access to formal credit through the MADB or microfinance institutions to ensure farmers can afford mechanization services, as they are likely to face significantly higher costs in the 2024 season. The rising fees of mechanized services could otherwise reduce monsoon season production.

References

- MASPA. 2024a. Rice Productivity and Profitability in Myanmar: Assessment of the 2023 Monsoon. Myanmar SSP Working Paper 56. Washington, D.C.: International Food Policy Research Institute.
- MASPA. 2024b. Myanmar Agricultural Performance Survey (Monsoon 2023): Farming Environment and Farm Commercialization. Myanmar SSP Working Paper 58. Washington, D.C.: International Food Policy Research Institute.
- World Bank. 2024. Myanmar Economic Monitor: Livelihoods Under Threat. Myanmar Economic Monitor Washington, D.C.: World Bank Group.

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