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Monitoring the Agri-food System in Myanmar

Agricultural Equipment Supply Chain – November 2024

This research note presents the impacts of recent economic disruptions on Myanmar's agricultural equipment supply chain, based on a phone survey of agricultural equipment vendors (AEVs) and repair service providers (RSPs) conducted in November 2024.

Key Findings

- Businesses face multiple disruptions, including transport restrictions, high costs, fluctuating exchange rates, and limited electricity and fuel. Safety concerns during transport were reported by 64 percent of RSPs and 26 percent of AEVs.
- Availability of agricultural machinery has declined significantly from last year, with reductions in two-wheel tractors (84 percent), four-wheel tractors (78 percent), and threshers (75 percent) reported by AEVs. This decline is likely driven by reduced demand, mobility restrictions, and high transportation costs.
- Availability and sales of spare parts and attachments are relatively stable, reflecting a shift towards maintaining and upgrading existing machinery. Combine harvesters and threshers show some resilience, potentially linked to agricultural labor shortages.
- Despite significant disruptions, most businesses report financial stability. While revenues have declined, businesses show resilience to recent shocks. RSPs appear to be benefiting from the growing demand for repair and maintenance services.

Recommended Actions

- Implement training programs that improve the availability and skills of mechanics to support RSPs as farmers focus on maintaining and upgrading their machinery.
- Train operators in proper use and maintenance practices, helping to extend the lifespan of machinery and reduce repair needs.
- Facilitate the expansion of domestic manufacturers of spare parts and attachments to improve the quantity, quality and variety of parts and attachments available.
- Ensure consumers have access to credit with favorable terms, enabling them to purchase machinery and spread repayment over time in line with economic conditions.
- Extend and expand the expedited approval of import licenses, and reduce other import barriers, for agricultural equipment and raw material needed by domestic producers to ensure stable supply and support of local manufacturing capabilities.

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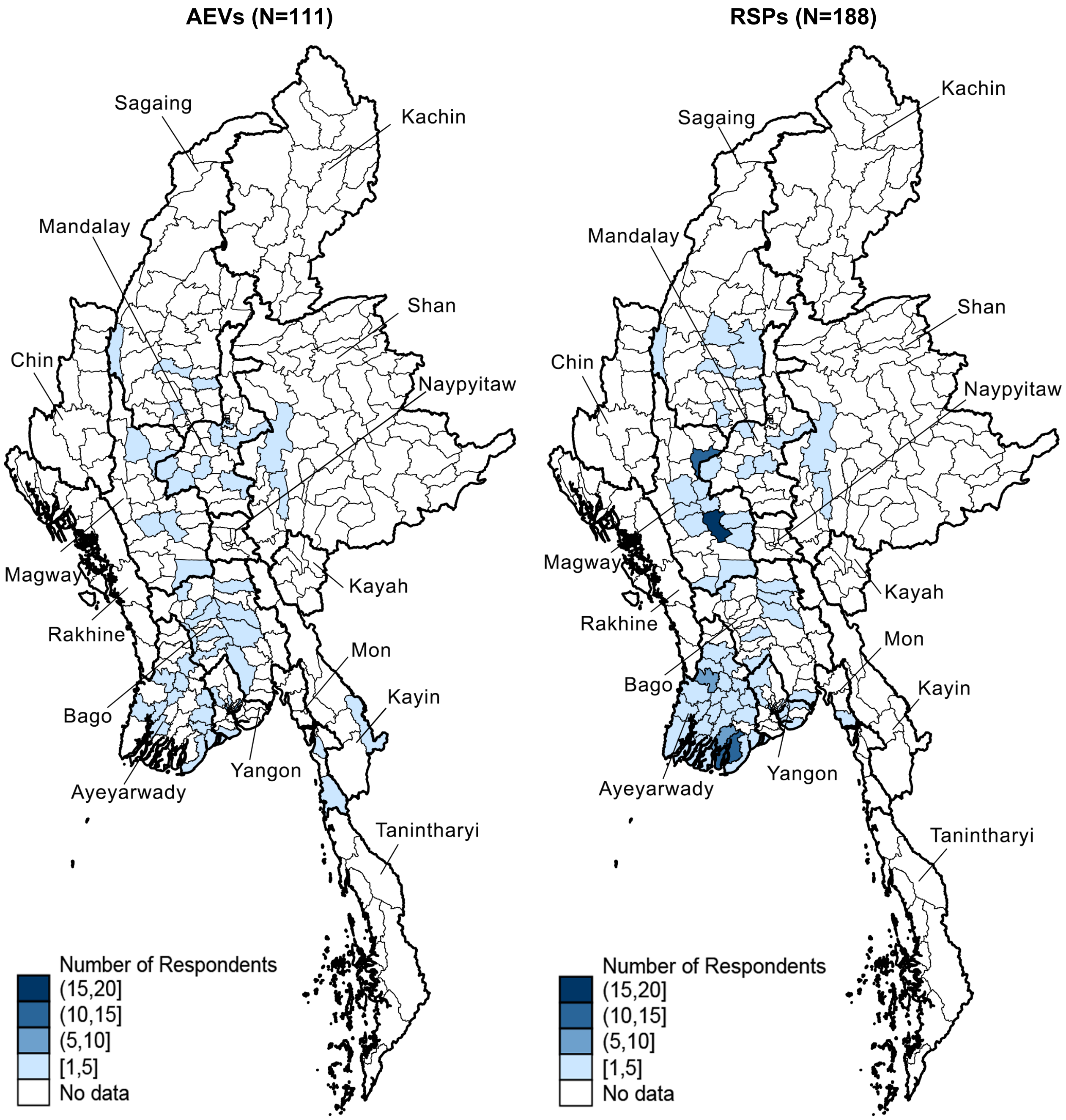
Introduction

The agricultural equipment supply chain in Myanmar includes importers, manufacturers, retailers, and repair services, all of which play a critical role in supporting agricultural production systems. Importers and manufacturers ensure a steady supply of machinery, attachments and spare parts, while retailers connect farmers to equipment and offer aftermarket services such as training and repairs. Repair shops provide maintenance and repairs to improve the longevity of the equipment, fostering a sustainable mechanization sector. However, the supply chain is sensitive to trade bottlenecks and logistical disruptions, which can affect the availability of equipment and parts. These challenges can ripple through the chain, constraining mechanization service providers and limiting farmers' access to mechanized services, ultimately hindering agricultural productivity.

Figure 1. Map of agricultural equipment supply chain sample



Source: Agricultural Equipment Supply Chain Survey, November 2024.
Note: Kachin, Kayah, Rakhine, Tanintharyi, Naypyitaw, and Mon were not represented in the sample.

This Research Note presents the effects of recent economic disruptions on Myanmar's agricultural equipment supply chain. The findings are based on a phone survey conducted in November 2024, including 111 agricultural equipment vendors (AEVs) and 188 repair service providers (RSPs) across 9 states and regions (Figure 1). While the survey is not representative, it provides valuable insights into several key areas: 1) disruptions to operations in the agricultural equipment supply chain; 2) prevalence and impacts of shocks on the supply chain; 3) availability and cost of equipment and services; 4) shifts in demand for equipment and services; and 5) financial health and outlook.

Table 1. Sample characteristics

	Agricultural Equipment Vendors	Repair Service Providers
N	111	188
Area (%)		
Rural	10	58
Urban	90	42
Business Type (%)		
Importers	31	9
Manufacturers	21	3
Retailers	49	7
Repair Shops	N/A	82

Source: Agricultural Equipment Supply Chain Survey, November 2024.

Table 1 provides an overview of our sample. Among AEVs, 31 percents are importers, 21 percent are manufacturers, and 49 percent are retailers. For RSPs, 82 percent operate exclusively as repair service providers, while 18 percent are AEVs that also offer repair services. Most AEVs in the sample (90 percent) are in urban areas, with only 10 percent based in rural areas. RSPs are more evenly distributed, with 58 percent in rural areas and 42 percent in urban areas.

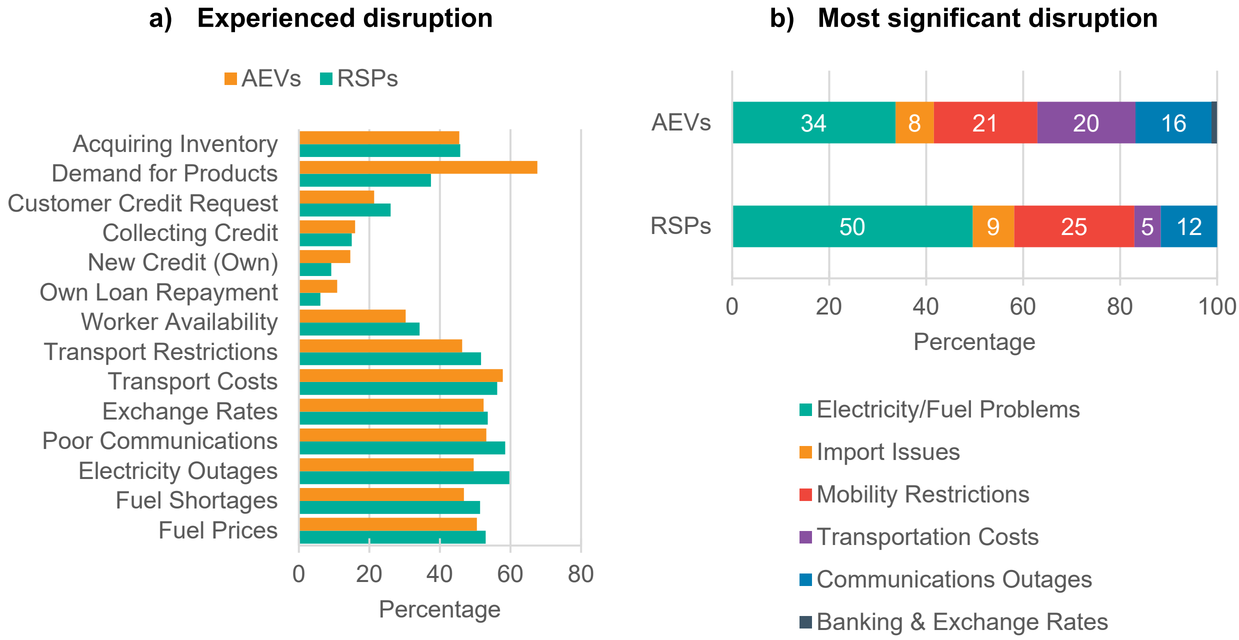
Business Disruptions

To understand how AEVs and RSPs are operating in the current environment, we asked whether their businesses had experienced any of the listed disruptions in the 30 days prior to the interview and which disruptions had the most significant impact on their operations. Figure 2a highlights that a majority of AEVs and RSPs reported being affected by transportation restrictions, high transport costs, fluctuating exchange rates, electricity and fuel outages, and poor cellular services.

For AEVs, the most frequent disruption—reported by 68 percent—is reduced demand for their goods and services compared to one year ago, while only 37 percent of RSPs reported the same. This likely reflects the economic challenges among the buyers of purchasing capital-intensive machinery. Only 11 percent of AEVs reported offering credit to their customers in the past six months, yet 21 percent reported increased demand for credit from their customers. This suggests that buyers may lack access to financing or have insufficient funds for large investments.

Meanwhile, the most frequent disruptions for RSPs were poor cellular service and limited access to electricity. Poor cellular service hampers communication with customers and suppliers, delaying repairs, procurement of parts, and scheduling of services. Limited access to electricity further complicates operations, forcing shops to rely on less efficient mechanical tools and reducing working hours during power outages. Despite these challenges, 81 percent of RSPs reported that they have been able to meet demand for their services in a timely manner over the last six months. However, customers still face an average wait time of 3.5 days before RSPs can begin work on their machines for regular maintenance.

Figure 2. Disruptions experienced by AEVs and RSPs in last 30 days



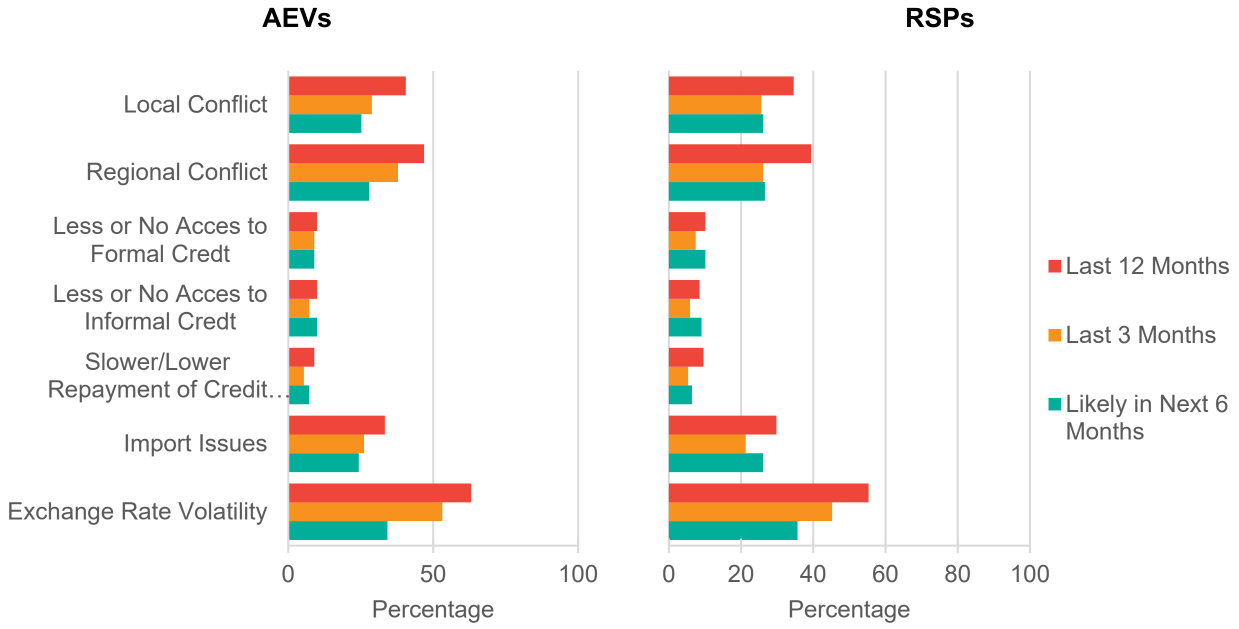
Source: Agricultural Equipment Supply Chain Survey, November 2024.

To better understand the magnitude of disruptions, Figure 2B highlights the most significant issues experienced by these businesses in the past 30 days. Electricity and fuel problems were the most frequently reported disruptions, affecting 50 percent of RSPs and 34 percent of AEVs. Mobility restrictions ranked second, impacting 25 percent of RSPs and 21 percent of AEVs. For AEVs, transportation costs were the third most significant issue, reported by 20 percent, but they were less of a concern for RSPs, with only 5 percent affected. Additionally, internet and call network outages were reported by 16 percent of AEVs and 12 percent of RSPs.

Transportation-related challenges emerged as critical disruptions for both groups. When asked for more details, respondents identified road blockages and checkpoints as the most frequently cited issue, affecting 56 percent of AEVs and 49 percent of RSPs. Safety and security concerns during transport were also significant, reported by 64 percent of RSPs and 26 percent of AEVs. High transportation costs remain a persistent challenge, cited by 36 percent of AEVs and 34 percent of RSPs. These challenges are particularly constraining, as 59 percent of businesses provide delivery services, with 63 percent transporting goods and services beyond their townships. Consistent with findings from mechanization service providers, these results suggest potential risks to both equipment and personal safety when transporting agricultural machinery (MAPSA, 2024b).

Despite the restrictions on foreign exchange and controls on imports in the country, less than one percent of respondents identified banking and access to foreign exchange as their most significant disruption, and less than nine percent reported import-related issues. Among AEVs, 62 percent successfully imported their primary agricultural equipment in 2024. Additionally, of those that imported equipment in 2024, only 9 percent reported difficulties sourcing foreign exchange, while 13 percent were unable to import due to insufficient access to foreign exchange. These relatively low figures may reflect a lagged effect of the military regime’s policy, which automatically approved and expedited import licenses for 70 Harmonized System (HS) lines of agricultural equipment through July 2024. [1]

Figure 3. Prevalence of shocks in the past 12 months, 3 months, and expected in the next 6 months



Source: Agricultural Equipment Supply Chain Survey, November 2024.

Figure 3 shows the prevalence of shocks anticipated by respondents in the next six months, alongside those that experienced them in the last 12 and 3 months, offering insights into how businesses expect disruptions to evolve. Overall, businesses appear cautiously optimistic about reduced shocks in the upcoming six months across all categories. AEVs foresee a decline in conflict-related shocks, with fewer businesses expecting to be impacted compared to the last three months. While RSPs anticipate that conflict-related disruptions will remain steady over the same period but decline overall compared to the level reported in the last 12 months.

For import-related issues, the share of businesses impacted has declined, falling from about a third of businesses in the last 12 months to a quarter or less in the last 3 months, with similar levels anticipated over the next 6 months. Similarly, exchange rate volatility shows an overall decline, though it remains the most significant shock expected in the next six months, reported by 34 percent of AEVs and 36 percent of RSPs. This uncertainty of exchange rate fluctuations complicates business planning and adaptation, as a depreciating currency raises the cost of imports, may drive up sales prices, and reduces consumers' purchasing power.

Availability and Costs of Agricultural Equipment

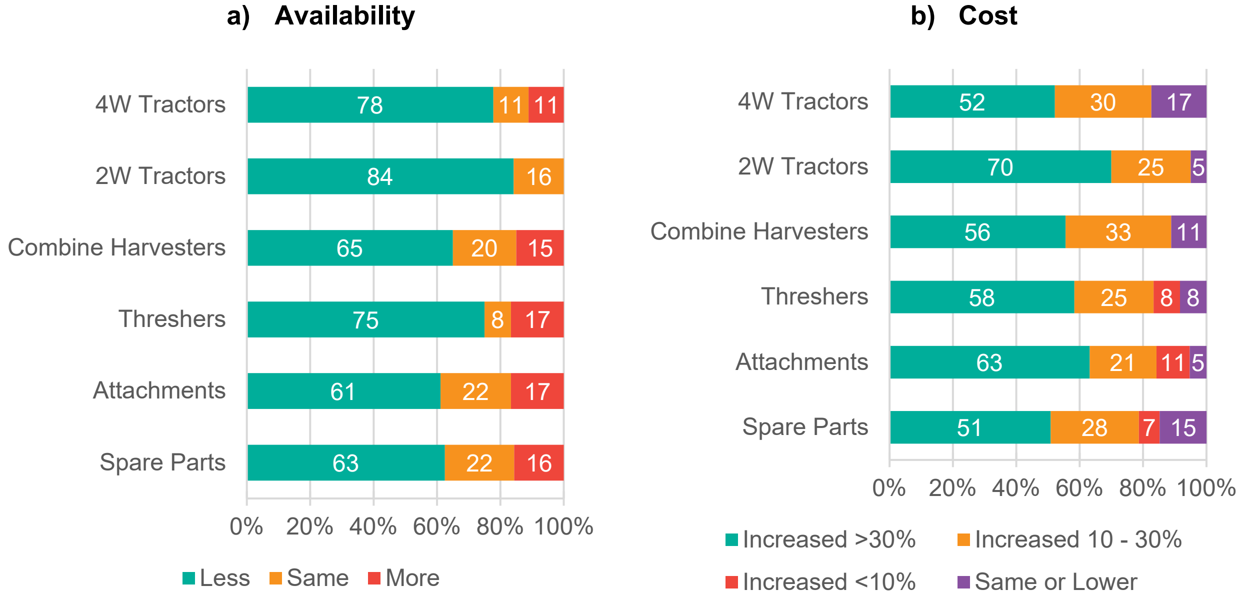
The availability of agricultural equipment reported by AEVs has declined significantly across most categories compared to last year (Figure 4a). Two-wheel tractors experienced the steepest reductions, with 84 percent of AEVs reporting lower availability, followed by four-wheel tractors (78 percent) and threshers (75 percent). Tractors, both two-wheel and four-wheel, are heavily reliant on imports, with no four-wheel tractors and just 10 percent of two-wheel tractors sourced domestically. Availability challenges may also have been further exacerbated by their exclusion from the 70 HS

[1] From September 2022 to July 2024, an automatic licensing system was put in place for 70 HS lines of agricultural machinery, which would provide expedited approval for import (https://www.gnlm.com.mm/agricultural-machinery-exempt-from-applying-for-import-licence/).

lines of agricultural equipment that were granted expedited import license approvals between September 2022 and July 2024.

In contrast, items like combine harvesters, attachments, and spare parts—some of which may have benefited from the preferential import policy—show relatively better availability. Respondents reported higher levels of domestic sourcing for attachments (57 percent) and spare parts (17 percent). The greater reliance on domestic production for these items, particularly attachments and spare parts, has likely contributed to their more stable availability.

Figure 4. Availability and cost of agricultural equipment compared to last year



Source: Agricultural Equipment Supply Chain Survey, November 2024.

Cost increases are widespread, with all categories showing substantial price hikes (Figure 4b). Two-wheel tractors and attachments are the most affected, with 70 percent and 63 percent of respondents, respectively, reporting cost increases exceeding 30 percent. Combine harvesters and threshers also show increases, with 56 percent and 50 percent of respondents, respectively, indicating price increases of more than 30 percent. Four-wheel tractors and spare part, while still affected, have the lowest proportion of respondents reporting cost increases of over 30 percent, at 52 percent and 51 percent, respectively. Four-wheel tractors and spare parts, while still impacted, have a smaller proportion of respondents reporting price increases exceeding 30 percent, at 52 percent and 51 percent, respectively. Notably, four-wheel tractors (17 percent) and spare parts (15 percent) also have the largest share of respondents reporting stable or reduced costs.

The depreciating Myanmar Kyat is very likely contributing to rising supply-side costs for agricultural equipment. While the official exchange rate has remained fixed at 2,100 MMK/USD, the black-market rate in November 2024 was 116 percent higher and had increased by 33 percent compared to the previous year. This depreciation likely puts upward pressure on prices, particularly for items excluded from preferential import policies. Items covered under these policies may have benefited from access to foreign exchange at lower rates, potentially reducing the cost increases.

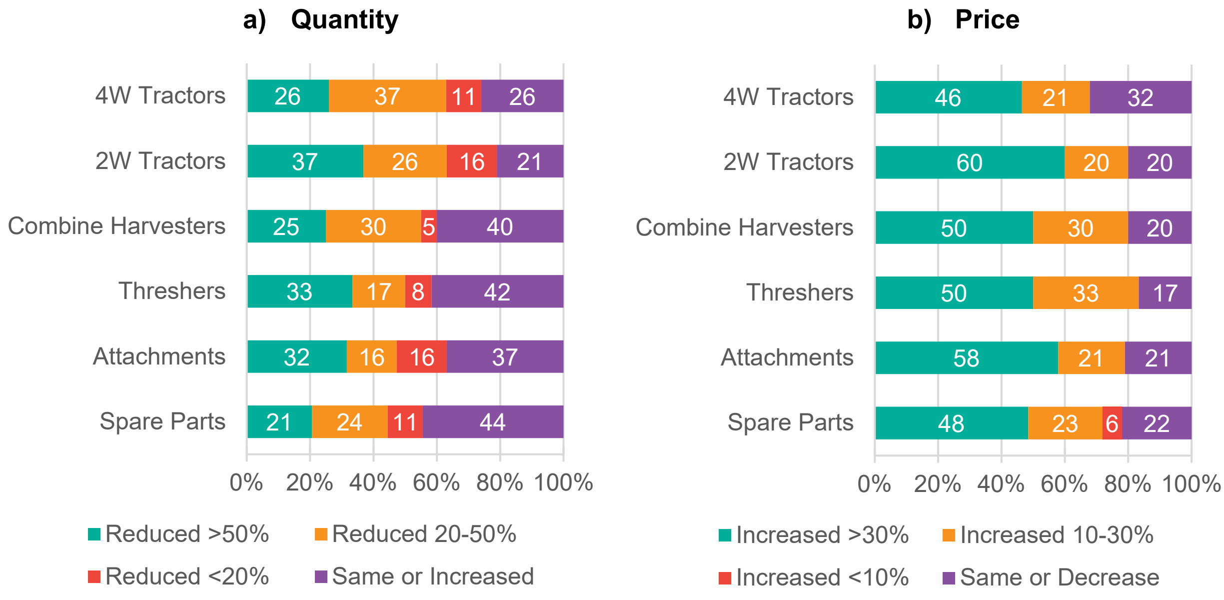
High transportation costs and logistical disruptions are likely contributing to rising supply-side costs. As noted earlier, respondents identified road blockages, security concerns, and increased transport costs as key challenges affecting supply chains. Additionally, limited access to electricity, high fuel costs, and disruptions in the sourcing of raw materials are likely driving up costs for domestically manufactured items. Together, these factors help explain the observed increases in supply-side costs.

Demand for Agricultural Equipment and Related Services

Sales quantities have declined significantly for most agricultural equipment compared to last year (Figure 5a). Two-wheel tractors experienced the largest declines, with 37 percent of respondents reporting sales reductions of more than 50 percent, followed by four-wheel tractors, where 26 percent reported similar reductions. Threshers and attachments also experience substantial declines, with 33 percent and 32 percent of respondents, respectively, reporting sales reductions exceeding 50 percent. Meanwhile, combine harvesters and threshers show a more balanced trend, with 25 percent of respondents reporting increased sales. This may suggest that demand for harvesting equipment is benefiting from agricultural labor shortages, as farmers have a short window to harvest crops and need alternatives to labor.

Spare parts stand out as relatively stable, with 44 percent of respondents reporting no change or increased sales. Similarly, attachments show some resilience, with 32 percent of respondents reporting stable or increased sales despite higher cost increases. Given that financial constraints and reduced availability of machinery makes replacement less feasible, this suggests that owners may be prioritizing maintaining and upgrading existing machinery. The continued demand for these items highlights the need to ensure operational continuity, especially as machinery ages and larger investments are postponed.

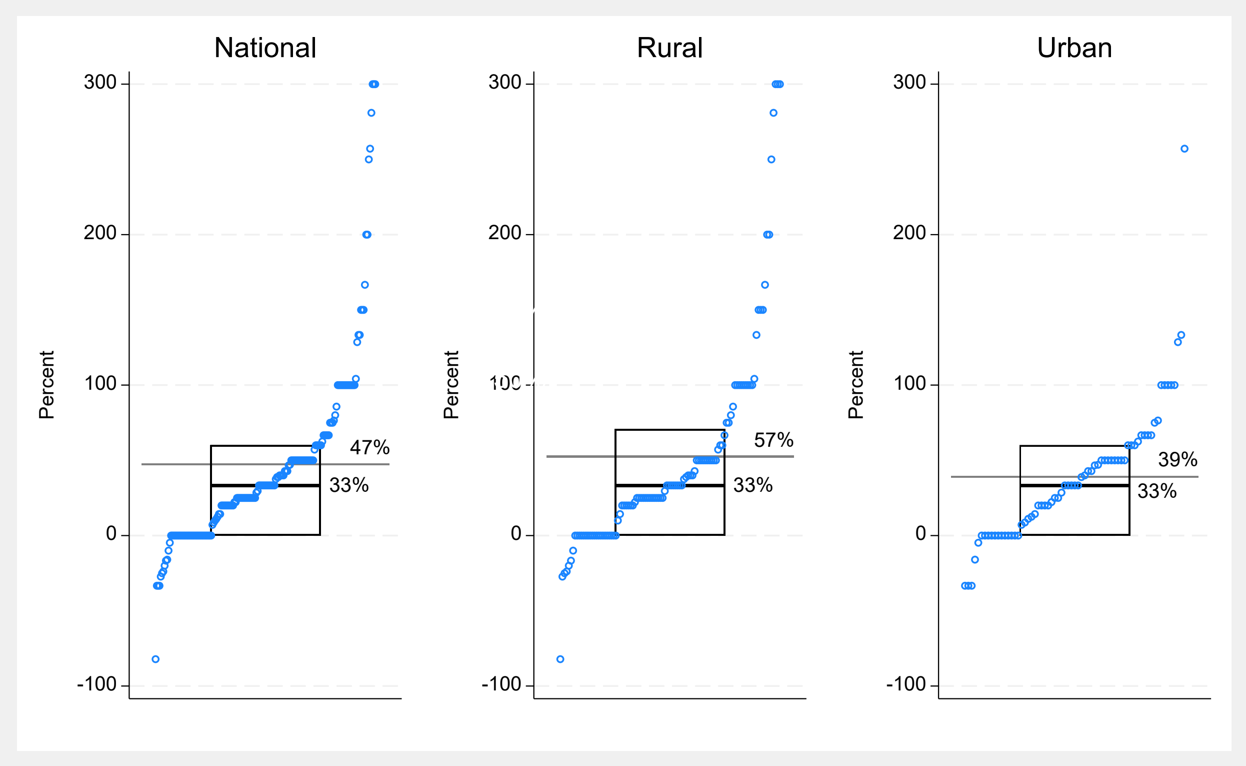
Figure 5. Sales quantity and price for agricultural equipment compared to last year



Source: Agricultural Equipment Supply Chain Survey, November 2024.

Sales prices have risen sharply across most types of agricultural equipment (Figure 5b). Two-wheel tractors experienced the steepest price increases, with 60 percent of respondents reporting costs exceeding 30 percent, followed by attachments (58 percent) and combine harvesters and threshers (50 percent). Four-wheel tractors, while still affected, saw a relatively smaller proportion of respondents reporting price increases, with 32 percent reporting prices stayed the same or decreased. The rising costs of spare parts, despite their relatively stable sales quantities, suggests that the cost of maintaining existing machinery is increasing, thus adding an additional financial strain to machinery owners.

Figure 6. Change in repair service labor rates compared to last year, by national, rural, and urban



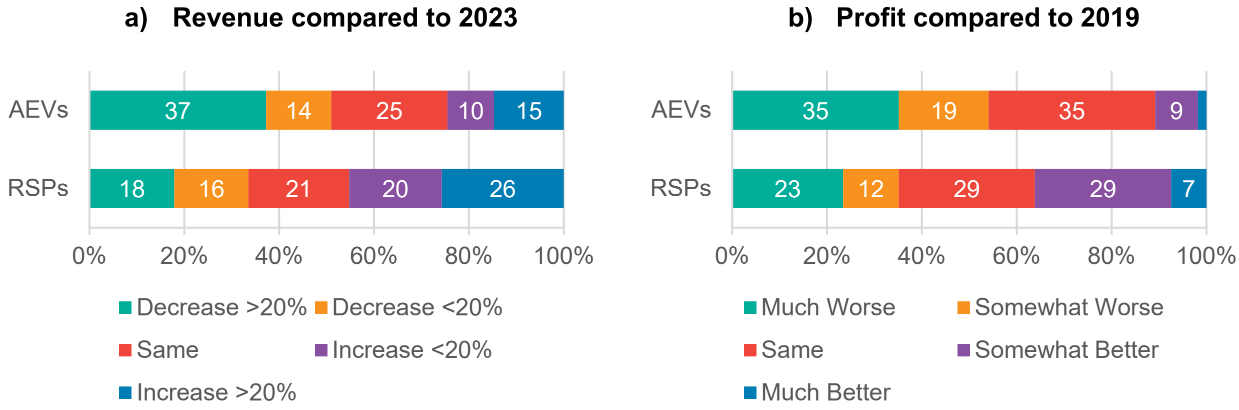
Source: Agricultural Equipment Supply Chain Survey, November 2024.

Figure 6 shows the change in labor rates for repair services compared to last year. Labor rates have risen by a median of 33 percent overall, with similar increases observed in both rural and urban areas. This aligns with nominal wage increases for rural agricultural labor (33 percent) between the second quarters of 2023 and 2024, and exceeds the nominal wage increases of urban construction workers (21 percent) over the same period (MAPSA, 2024a). The mean rate in rural areas is higher than in urban areas and the national average, potentially reflecting challenges in sourcing mechanics in rural regions. Of the 28 percent of RSPs that reported worker shortages, 56 percent were in rural areas, suggesting this could be a contributing factor.

Financial Stability and Outlook

Figure 7 shows that the financial outlook and experiences of AEVs and RSPs have differed. A majority (51 percent) of AEVs expect revenues to decline in 2024 compared to 2023, with 37 percent anticipating decreases greater than 20 percent. In contrast, RSPs are more optimistic, with 66 percent expecting revenues to stay the same or increase, and 26 percent anticipating increases of over 20 percent. Over a five-year period, 46 percent of AEVs report their profits have stayed the same or improved, while 65 percent of RSPs report the same. RSPs appear to be performing relatively well, with a stronger financial position and outlook compared to AEVs. While over a third of AEVs (35 percent) report being much worse off now than five years ago, the sector as a whole appears relatively stable, with many businesses maintaining profitability and financial resilience despite challenges.

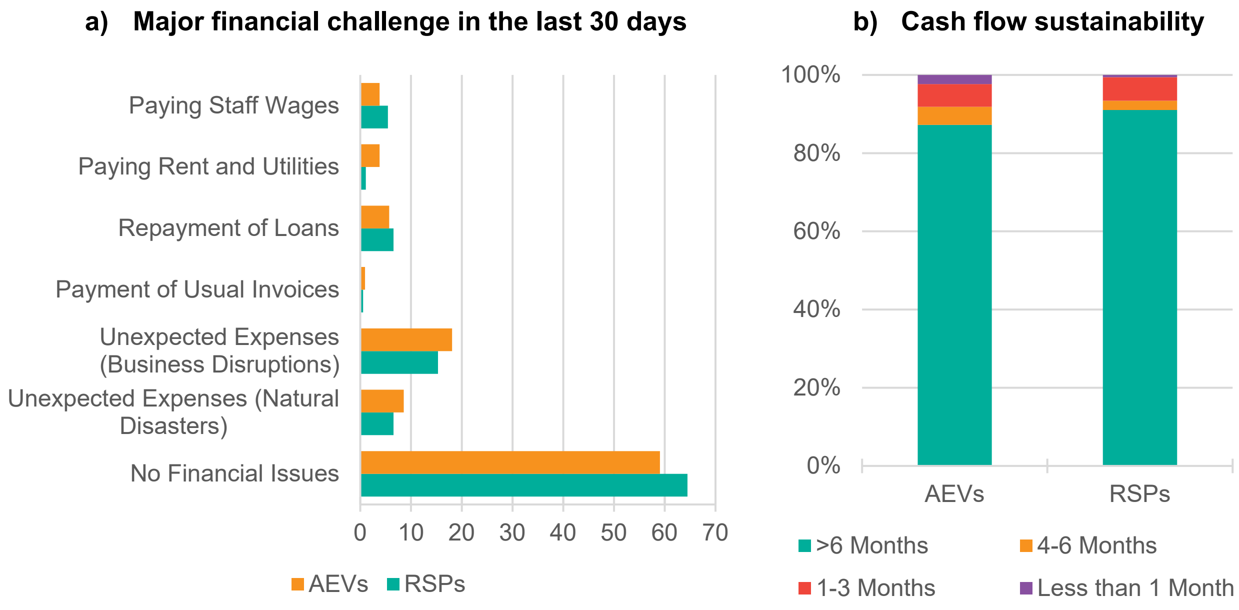
Figure 7. Perceptions of earnings compared to 2023 and 2019



Source: Agricultural Equipment Supply Chain Survey, November 2024.

Figure 8 shows more indications of financial stability for both AEVs and RSPs. 87 percent of AEVs and 91 percent of RSPs believe their current cash flow can sustain business operations for over six months. Only 4 percent of AEVs and 3 percent of RSPs currently have loans to operate their businesses, suggesting that many are managing without reliance on credit. At the same time, 59 percent of AEVs and 64 percent of RSPs state that they had no major financial challenges in the last 30 days. This indicates that, despite operational challenges, businesses are maintaining relatively healthy financial positions.

Figure 8. Primary financial challenges and cash flow outlook



Source: Agricultural Equipment Supply Chain Survey, November 2024.

The largest major financial issue is unexpected expense due to business disruptions, impacting 18 percent of AEVs and 15 percent of RSPs. Given that 86 percent of businesses reported experiencing at least one disruption in the last 30 days, with an average of 4.6 disruptions in the last 30 days (Figure 2a), its notable that such a high share of businesses report no major financial challenges in the last 30 days. Suggesting that these businesses have developed some financial resilience to these shocks.

Discussion

Challenges in both supply and demand are affecting the availability and costs of agricultural machinery. While very few businesses report significant challenges with import procedures or access to foreign exchange, transportation restrictions and high transportation costs are key obstacles. These issues make it more expensive and difficult for importers to supply equipment, which may be further compounded by reduced demand for machinery. Sales quantities have declined significantly for most equipment, with a large proportion of businesses reporting reductions of over 50 percent. At the same time, sales prices for machinery have risen sharply, with the majority of respondents reporting price increases exceeding 30 percent. Additionally, fluctuating exchange rates create uncertainty for businesses, making it harder to plan inventory purchases and manage costs. This combination of logistical challenges, high costs, and reduced demand creates a discouraging environment for maintaining or expanding inventories, straining the supply chain.

Spare parts and attachments demonstrate a degree of stability in the agricultural equipment market, supported by factors on both the supply and demand sides. On the supply side, attachments and spare parts benefit from higher levels of domestic production—57 percent and 17 percent, respectively—which reduces reliance on imports and mitigates some of the impact of transportation challenges. Demand for these items has also been relatively consistent, with 44 percent of respondents reporting no change or increased sales for spare parts and 32 percent reporting the same for attachments. These patterns suggest that machinery owners are focusing on maintaining and upgrading existing equipment rather than investing in costly replacements, particularly as financial constraints and limited machinery availability persist. However, the rising costs of spare parts, attachments, and repair services reflect broader cost pressures. Despite these challenges, their relative stability underscores their critical role in sustaining machinery operations.

Despite significant challenges, agricultural equipment businesses show signs of financial stability. Most businesses have faced significant disruptions, with 86 percent experiencing at least one shock in the last 30 days and an average of 4.6 shocks per business. Yet, they have shown resilience, with over 59 percent not facing major financial issues in that same period. While earnings have declined for many, particularly among AEVs, RSPs appear better positioned financially, likely benefiting from a shift towards maintenance and upgrades over equipment replacement. The limited reliance on credit for these businesses suggests they may retain flexibility to adapt to economic conditions. Overall, these businesses appear to be managing their current challenges, with some expectation that the frequency of shocks may ease slightly in the months ahead.

Looking forward, targeted efforts are needed to support the agricultural equipment sector in both the short and long term:

- Implement training programs that improve the availability and skills of mechanics to support RSPs as farmers focus on maintaining and upgrading their machinery.
- Train operators in proper use and maintenance practices, helping to extend the lifespan of machinery and reduce repair needs.
- Facilitate the expansion of domestic manufacturers of spare parts and attachments to improve the quantity, quality and variety of parts and attachments available.
- Ensure consumers have access to credit with favorable terms, enabling them to purchase machinery and spread repayment over time in line with economic conditions.
- Extend and expand the expedited approval of import licenses, and reduce other import barriers, for agricultural equipment and raw material needed by domestic producers to ensure stable supply and support of local manufacturing capabilities.

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