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Strengthening Myanmar's Agrifood System

Evidence and Pathways for Resilience

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CONTENTS

TABLES

FIGURES

EXECUTIVE SUMMARY

Myanmar's agrifood system is central to the country's economy and to the livelihoods of most of its population, having historically accounted for roughly almost half of GDP and two-thirds of employment. Since 2021, the political crisis, intensifying conflict and insecurity, climate shocks, and a major earthquake have placed the system under sustained and compounding stress. Drawing on evidence collected between 2021 and 2025, this paper provides a snapshot of where the system stands following this period of crisis and identifies opportunities for strengthening its resilience going forward.

Private sector actors have been central to sustaining the agrifood system's resilience since 2021. Input retailers have maintained the physical availability of fertilizer, seeds, and agro-chemicals, even in insecure areas, while mechanization service providers have continued to supply labor-saving services through flexible payment arrangements. Private agribusinesses have absorbed the contraction in formal credit, now accounting for roughly three-quarters of fertilizer credit sources, and have become the dominant providers of extension, both in-person and digital. These actors are operating under significant financial stress, but they have sustained farmers' access to inputs, services, credit, and advice during a period when these would otherwise have likely collapsed.

Input costs have risen significantly since 2022, with agricultural wages, mechanization costs, and fertilizer prices all rising substantially. Farmers have responded by partially shifting toward lower-cost production practices, including direct seeding, which carries an estimated yield penalty of approximately 15 percent compared to transplanted rice. Promoting appropriate agricultural technologies in conflict- and climate-affected areas requires targeted attention, particularly for smallholders and more remote households. Sustaining and expanding development assistance alongside humanitarian assistance will be important to support the transition toward more productive and sustainable farming systems, with scaling domestic production of organic soil amendments and expanding mechanization services.

Agricultural extension use rebounded to 38 percent in the 2025 dry season, with the private sector now the dominant provider and digital channels expanding rapidly. Given persistently low and unequal access to extension services, more inclusive outreach combining targeted in-person support in underserved areas with strengthened digital delivery is needed, with particular attention to women, less educated, remote, and conflict-affected farmers. As agrochemical distributors dominate both in-person and digital advisory services, promoting high-quality agronomic content and ensuring clear separation between technical advice and product promotion is important. The rapid expansion of digital platforms creates opportunities but requires investments in digital literacy, content quality, and monitoring systems to assess impact. Partnerships between digital platforms and large firms could also support traceability and quality requirements for export markets.

Formal credit access has declined sharply since 2021, with the share of farmers receiving credit during the monsoon season falling from 60 percent in 2020 to 43 percent in 2023, and dry season credit dropping from 48 percent in 2021 to 31 percent in 2025. Despite this contraction, agribusinesses, particularly input retailers, remain dispersed throughout the country and represent the most tractable near-term opportunity for expanding farm credit provision. Strengthening agribusiness access to seasonal working capital would expand their capacity to extend credit to farmers, and bundling credit with complementary supports such as market access, extension, and possibly insurance is likely to yield stronger outcomes than credit provision alone. Targeted credit guarantees and partnerships with civil society organizations that work with farmer groups could derisk lending in underserved areas, with crop insurance for specific high-value crop segments representing a longer-term opportunity.

Markets have continued to function, with agricultural exports increasing from approximately USD 1.9 billion in 2019 to USD 3.8 billion in 2024, due in part to higher international commodity prices and greater formalization of exports. Marketing and processing margins have widened significantly, with the farmgate paddy-to-retail rice price ratio falling from 0.50 in 2021 to 0.33 in 2025. Maintaining secure mobility, predictable trade policies, and macroeconomic stability remains critical for the functioning of agricultural markets, and investments in rural infrastructure, especially all-season roads in remote areas, are essential to reduce spatial price wedges. Support to value chain actors through improved access to finance and reliable energy services, including alternative energy options, would help mitigate cost pressures, and strengthening food safety systems and investments in traceability are increasingly required to meet stringent export market requirements. Investment in alternative processing methods for perishable foods and in value chains for low-weight, high-value products such as spices and dried fruits could expand market access for producers, including those in conflict-affected areas.

Food security and nutrition outcomes remain a concern, with roughly 2 million people facing moderate or severe hunger, 16 percent of households having borderline or poor food consumption, and the cost of diets nearly tripling since April 2022. High prices for healthy foods, combined with poor diet indicators in the West, Southeast, and Northeast, signal a need to strengthen distribution and retail networks for affordable, nutritious foods. Across Myanmar more broadly, diets remain heavily concentrated in staples, indicating scope for the development and marketing of affordable nutrient-dense foods. Investments in local production, aggregation, storage, and transport, particularly for perishable foods, could improve the availability of healthy foods in low-access areas, and where market access remains challenging, supporting households to produce their own nutrient-dense foods through crop diversification and home gardens could play an important complementary role. Supporting local production of therapeutic foods, currently procured internationally, would create a market for nutritious food production.

Conflict and insecurity have produced significant variation in how the agrifood system performs. Farmers in insecure communities face input prices 1-6 percent higher than those in more secure areas, are 7-15 percentage points more likely to report labor shortages, and are 11 percentage points less likely to access in-person extension services. Mobility constraints limit mechanization service providers' ability to deliver timely services and traders' ability to move goods to market while rising transport costs and storage concerns contribute to widening price gaps between farmers and consumers. Food security and nutrition indicators follow a similar pattern, with hunger, poor food consumption, and inadequate dietary diversity all significantly more prevalent in the most conflict-affected regions.

Inclusion in the agrifood system is uneven across multiple dimensions, with smallholders, less educated farmers, women, and those in remote or conflict-affected areas facing reduced participation across credit, markets, extension, and dietary outcomes simultaneously. Inclusive approaches that account for these overlapping characteristics are important for reaching the groups whose participation remains most limited.

Strengthening agrifood system resilience over the short and medium term involves working through channels that are already functioning, with private sector actors having shown themselves to be effective conduits for sustaining farmer access to inputs, credit, and extension. Bundling support across multiple constraints simultaneously tends to yield stronger outcomes than addressing any one constraint alone, particularly where credit, extension, and market access can be brought together. Continued monitoring and evidence will be important to inform engagement over time. The resilience the agrifood system has shown since 2021 provides a foundation that the private sector can build on, with external partners playing a complementary role through facilitating investment, sharing risk, and supporting innovation in conditions where conventional approaches may not apply.

1. INTRODUCTION

The agrifood system lies at the heart of Myanmar's economy and underpins the livelihoods of most of its people. Prior to recent crises, the agrifood system as a whole, encompassing agriculture and off-farm food system activities, accounted for approximately 47 percent of GDP and about two-thirds of total employment (Diao et al., 2023). Food expenditures represent roughly half of total household consumption nationwide, rising to around two-thirds for the poorest quintile (Mahrt et al., 2024). As such, conditions in the agrifood system have direct implications for food security, rural incomes, and household welfare across much of the country. Sustaining and strengthening the agrifood system therefore represents one of the most effective means of maintaining economic resilience and improving welfare outcomes for Myanmar's population.

The political crisis that began in 2021 has placed Myanmar's agrifood system under sustained and compounding stress. Banking and financial services were disrupted, foreign exchange access constrained, public service delivery contracted, and the environment for private investment deteriorated sharply. Widening conflict and insecurity have compounded these pressures, displacing communities, restricting mobility, and undermining market functioning. Climate shocks, including increasingly severe floods, droughts, and irregular rainfall, as well as a major earthquake, have added further strain to communities and farming systems already under pressure. These conditions have necessitated significant adaptation throughout the agrifood system.

This paper provides a snapshot of where Myanmar's agrifood system stands following this period of sustained crisis.[1] Drawing on evidence collected between 2021 and 2025, it reviews the performance of the system across five thematic areas, covering agricultural inputs, agricultural finance, agricultural extension and advisory services, agricultural commodity markets, and food security. Building on this evidence base and on engagements with stakeholders working across the agrifood system, the paper identifies opportunities for strengthening resilience, with particular attention to the role that private sector actors have played in sustaining the system under difficult conditions and where support could expand their capacity to do so further.

The evidence draws on multiple sources of primary data. Nine rounds of the Myanmar Household Welfare Survey, reaching 12,000 to 13,000 households nationwide through a nationally representative sampling design (Lambrecht et al., 2023), provide detailed monitoring of food security, diets, shocks, coping strategies, and food prices. Seasonal agricultural surveys covering approximately 5,000 farmers, conducted through the Myanmar Agricultural Performance Survey (MAPS), document farm production, input use, and access to finance and extension across monsoon and dry seasons. These are complemented by surveys of agro-input retailers, mechanization service providers, and rice millers that track conditions and performance among key agrifood value chain actors. Collectively, these datasets provide a comprehensive and longitudinal picture of how Myanmar's agrifood system has functioned and evolved across the survey period.

The paper is organized as follows. Section 2 provides an overview of the broader conditions affecting Myanmar's agrifood system. Section 3 presents evidence across five thematic areas, covering agricultural input markets, agricultural extension and crop advisory services, agricultural finance, agricultural commodity markets, and food security and nutrition. Section 4 discusses opportunities for strengthening the resilience of the agrifood system, with a focus on the role of the private sector. Section 5 concludes the paper with a discussion of cross-cutting observations drawn across the evidence.

[1] A similar assessment of Myanmar's agrifood system was conducted in 2023. See MAPSA 2023.

2. AN AGRIFOOD SYSTEM UNDER STRESS

Myanmar's agri-food system has been affected by a large number of shocks and policy changes over the period 2021-2025. These have affected the sector in important ways, with insecurity having particularly significant consequences for agricultural markets.

Perceptions of insecurity among farmers are an important indicator of conditions on the ground, as insecurity may lead farmers to avoid traveling to buy inputs, sell outputs, or even cultivate their land altogether. In the 2025 monsoon season, 19 percent of farmers indicated that they could not move around without serious concerns for security, while 29 percent felt 'insecure' or 'somewhat insecure' within their communities. At the national level, 6 and 3 percent of farmers, respectively, reported that fields in their community had not been cultivated, or had been burnt, destroyed, or not harvested because of conflict, and 1 percent reported confiscation of land in their community. A further 8 percent indicated that they were afraid to store agricultural produce at home. Reported insecurity concerns among farmers are generally higher in the Dry Zone and Coastal agro-ecological zones.

Myanmar's agrifood system is closely connected to international markets, which have been highly volatile in recent years. Two developments have had a particularly large impact. Fertilizer prices quadrupled internationally following the outbreak of the Russia-Ukraine war in 2022, before declining by early 2024. Rice prices increased substantially between 2021 and mid-2024, supporting good profitability conditions during that period, but by 2025 had since fallen to approximately half the level of 2024.

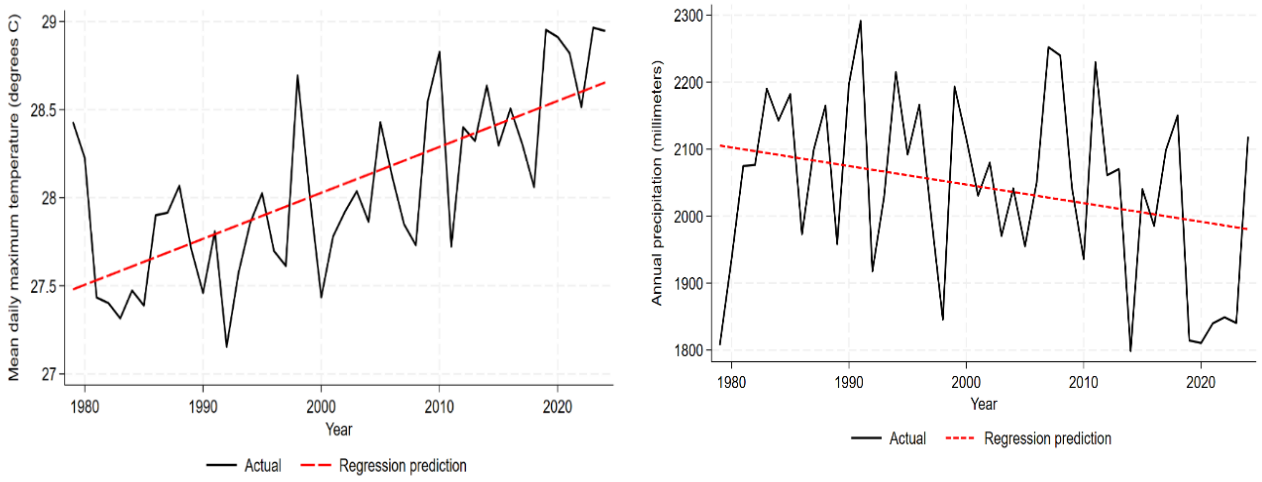
Significant shifts have also occurred in agricultural export markets. Prior to 2020, China and India were among the most important export destinations for Myanmar, but this has changed considerably since. China closed its market to maize in 2019, leading to a pivot in export destinations (Goeb et al., 2025c), and the subsequent closure of multiple land borders between Myanmar and China further reduced cross-border trade significantly. At the same time, while ASEAN member states have reduced tariffs significantly over time, non-tariff measures have increased correspondingly, resulting in broadly similar overall trade costs among member states over recent decades (Xing et al., 2024).

The introduction of a multiple exchange rate system by the authorities in mid-2022 has created an implicit export tax and suppressed domestic price levels for major export commodities. Import licensing requirements and difficulties in accessing foreign exchange have also contributed to scarcity of some imported goods and high prices for agricultural inputs. While the process of obtaining import licenses is time-consuming, it is generally manageable for some commodities such as urea but can be considerably more burdensome for other agrochemicals and agricultural inputs. These controlled imports have been associated with significant changes in market incentives, affecting feed ingredients and fertilizers on the input side and produce markets including dairy, processed foods, and vegetable oils on the other. Alongside these price distortions, there have been significant declines in the delivery of public services including credit, extension, and electricity, as well as deteriorating security conditions.

Rainfall patterns and average temperatures in Myanmar are undergoing significant changes, consistent with trends observed globally and across Asia (Shaw et al., 2022). Drawing on the Multi-Source Weather database (Beck et al., 2022), a high-resolution, bias-corrected meteorological product with global coverage from 1979 onwards, Minten et al. (2025) show that annual rainfall declined by just over 100 mm between 1980 and 2024, representing a decrease of about 5 percent, while average temperature increased by approximately 1°C from 27.5°C to 28.5°C over the same period (Figure 1). These changes in temperature and rainfall have important implications for agriculture (Rosengrant et al., 2025).

Figure 1. Changing temperatures and precipitation in Myanmar, 1980-2024

Mean daily maximum temperature *Mean annual precipitation*



Source: Calculations based on MSWX (2025) and Beck et al. (2022)

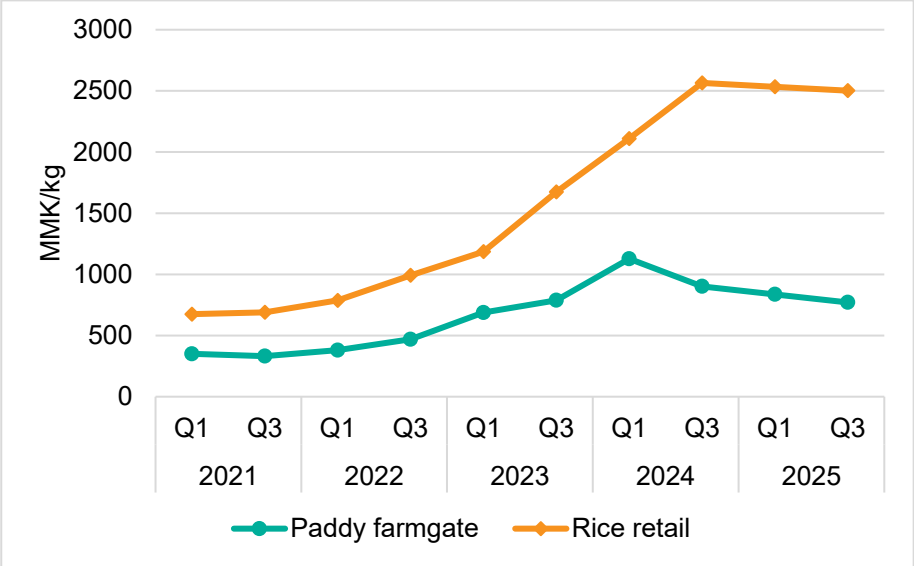
Myanmar is highly vulnerable to natural disasters and extreme weather events, ranking 4th globally on the Climate Risk Index (Adil et al., 2025). The country faces multiple natural hazards, including droughts, floods, cyclones, storm surges, and intense rainfall, risks that are expected to intensify with climate change. For example, the intensity and frequency of cyclones and strong winds have increased noticeably, with such events occurring approximately once every three years between 1980 and 2020 but becoming annual occurrences since 2000 (Noble, 2023).

Migration and labor scarcity are growing challenges for Myanmar's economy and its agrifood system. Approximately 30 percent of Myanmar's population is estimated to have migrated over the last four years, with 6 percent of households having members leave abroad to evade the conscription law (van Asselt et al., 2025). As a result, labor scarcity is consistently ranked as a major constraint by farmers and agribusinesses across the country.

Despite these challenges, the agrifood system has been surprisingly resilient. Farmers have continued to rely on markets to obtain inputs and sell their produce, and no significant declines in yields have been observed at the national level. Yields were higher in 2023/2024, supported by high international commodity prices and relatively low fertilizer prices at the time, but have declined since then. Exports of pulses and maize increased between 2019 and 2024, while rice exports remained at similar levels, though it is important to note that formal export values have increased partly due to the closure of many land border trading points rather than reflecting growth in overall export volumes.

A concerning development has been the significant increase in marketing margins, driven by rising transportation costs partly linked to a growing number of roadblocks, alongside labor and energy constraints that have contributed to higher processing costs. This has resulted in a growing gap between consumer and producer prices (Figure 2), with the ratio of farmgate to retail paddy prices declining from 0.50 in 2021 to 0.33 in 2025, substantially reducing prices received by farmers. These pressures on farm incomes and increasing consumer costs are increasingly reflected in growing indebtedness in rural areas, with almost half of farmers reporting outstanding debts in late-2025.

Figure 2. Paddy farmgate and rice retail prices



Source: Myanmar Agricultural Performance Surveys

3. THE STATE OF MYANMAR'S AGRIFOOD SYSTEM

The following sections examine evidence across five dimensions of Myanmar's agrifood system, covering agricultural inputs, agricultural finance, extension and advisory services, commodity markets, and food security. Together, they document both the resilience the system has displayed under difficult conditions and the pressures that continue to mount across each dimension.

3.1. Agricultural Input Markets

Agricultural input systems in Myanmar entered the post-2020 crisis with relatively low input intensity and a strong reliance on private markets. Before 2020, fertilizer use and improved seed adoption were low by regional standards, while labor shortages driven by migration and rising wages were shaping production systems and encouraging greater reliance on mechanization, herbicide use, and direct seeding of rice. Input supply, mechanization, and repair services were already largely private sector-led, with mechanization growth occurring mainly through rental and service markets rather than public provision.

The use of agro-chemicals, mechanization, and hired labor continued to be widespread after 2020. Table 1 presents adoption rates at the farm level in the years following the political crisis, focusing on Myanmar's major crops — rice, pulses, and oilseeds — during both the monsoon and dry seasons. Agro-chemical use is significantly higher for rice cultivation in the dry season compared to the monsoon.[2] Chemical fertilizer use is widespread, with 72 percent of rice farmers using urea in the monsoon season, rising to 90 percent in the dry season, and 45 percent applying other chemical fertilizers in the monsoon, rising to 67 percent in the dry season. Glyphosate, other herbicides, and pesticides are also widely used, particularly in the dry season, though agro-chemical use is generally lower on plots cultivated with pulses and oilseeds than on those with rice. Farmers also rely extensively on mechanization and hired labor across all major crops, and purchasing of seeds is more common in rice cultivation than for oilseeds and pulses.

[2] Note that the largest share of rice is produced during the monsoon season (Boughton et al., 2024).

Table 1. Agro-chemical use, hired labor, and mechanization use on rice, pulses and oilseeds fields, 2022-2024

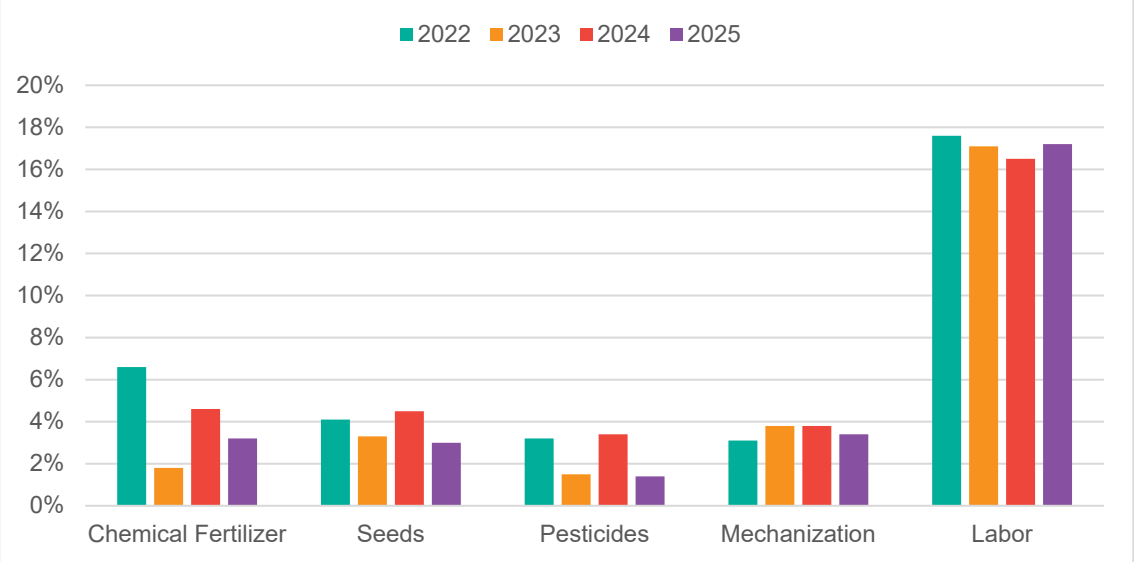
	Monsoon Season		Dry Season	
	Rice	Oilseed/pulses	Rice	Oilseed/pulses
Purchased seeds	45	32	56	34
Chemical fertilizers				
- Urea	72	24	90	27
- Other fertilizer	45	25	67	21
Glyphosate	19	19	29	22
Other herbicides	52	34	66	36
Other pesticides	44	53	62	73
Mechanization	88	63	97	81
Hired labor	84	88	78	92

Source: Myanmar Agricultural Performance Surveys 2022-2024

Since the political crisis began in 2021, most purchased agricultural inputs have remained physically available, including in insecure areas. Reported lack of access to fertilizer, agro-chemicals, seeds, and mechanization services has remained consistently low, typically affecting less than 5 percent of farmers nationally (Figure 3). Even in the most insecure communities, farmers were only 1–6 percentage points more likely to report lack of access to these inputs than farmers in the least insecure communities, indicating modest and localized reductions in availability rather than widespread disruptions to access.

Agricultural labor availability remains a persistent challenge, particularly in insecure areas. Approximately 17 percent of farmers reported agricultural labor shortages in each survey round between 2022 and 2025 (Figure 3). Labor scarcity predates the current crisis, rooted in migration and rising wages before 2020, but recent increases in migration partly linked to the conscription law and heightened insecurity since 2021 have added considerable pressure. Farmers in insecure communities were 7–15 percentage points more likely to report lack of availability of agricultural labor than farmers in the least insecure communities.

Figure 3. Percentage of farmers reporting lack of inputs, 2022 – 2025 dry season



Source: Myanmar Agriculture Performance Surveys

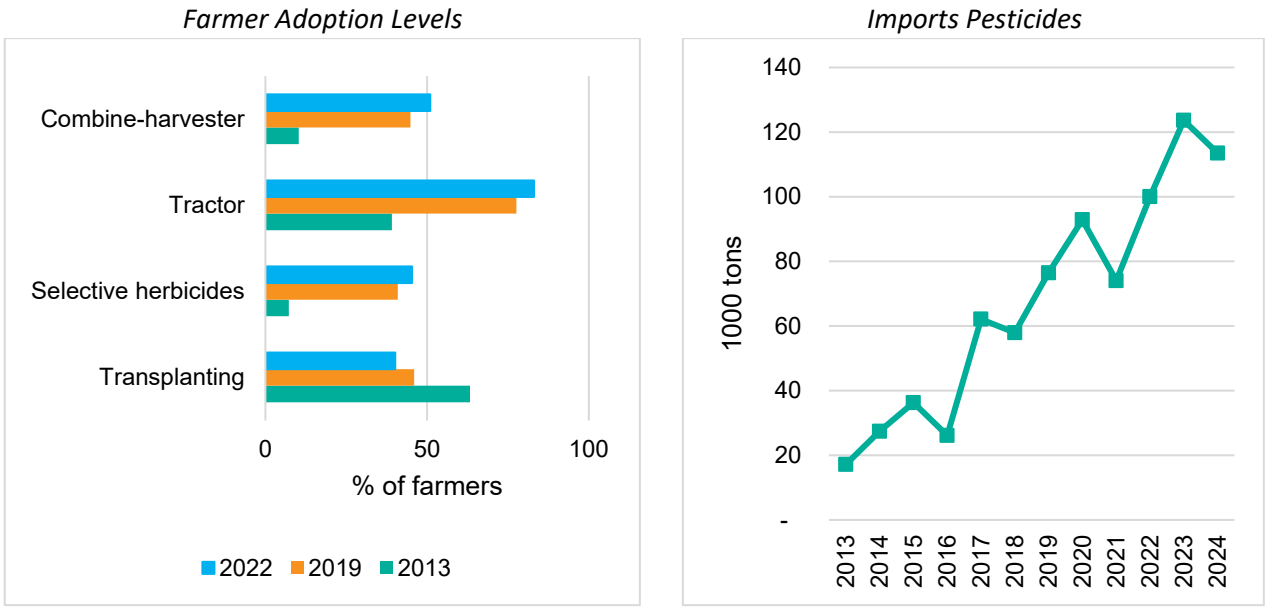
Despite remaining physically available, most purchased agricultural inputs have become significantly more expensive since 2022. In nominal terms, agricultural wages increased by around 125 percent, plowing costs almost doubled, and urea prices increased by about 40 percent, though from a high base in 2022 due to the Russia-Ukraine war. These cost increases have placed increasing pressure on farmers' access to inputs even as physical availability has been maintained, with input prices in more insecure communities typically 1–6 percent higher than in less insecure communities.

These cost increases reflect a combination of macroeconomic distortions affecting imported inputs and rising operating costs affecting labor and mechanization services. Foreign exchange restrictions, the dual exchange-rate system, and transport disruptions have raised the cost of imported inputs, leaving fertilizer prices around 10 percent higher than in neighboring countries. Declining global fertilizer prices since their 2022 peak, along with a reference pricing system, though often not adhered to, have however moderated domestic fertilizer price increases relative to other inputs. Mechanization service costs have increased sharply due to higher fuel and operating costs, and rising agricultural wages reflect ongoing labor shortages.

Strong integration with international markets meant that high global commodity prices initially offset rising input costs, but this buffer largely disappeared in 2025 as most global prices fell. Between 2022 and 2024, high international prices for rice and other major agricultural commodities were transmitted to domestic markets, supporting farm revenues and helping offset higher input costs. In 2025, global commodity prices declined, including by about 15 percent for rice, accompanied by reductions in cultivated area and expectations of lower paddy production, while continued high input costs point to tighter margins and lower farm incomes.

In response to higher input costs, farmers have increasingly adopted lower-cost and labor-saving production practices, with implications for yields. The shift from transplanting to direct seeding in paddy cultivation, a transition that began prior to 2021, has continued, with more recent shifts from wet to dry broadcasting to further reduce labor and production costs (Figure 4). Rice yields under direct seeding are estimated to be about 15 percent lower than under transplanting. Alongside these shifts, farmers are shortening land preparation periods and reducing the number of plowing passes to lower fuel and service costs, and fertilizer application rates have declined. Greater reliance on direct seeding is also associated with increased use of agro-chemicals, particularly herbicides, and pesticide imports increased by 31 percent between 2018-2020 and 2021-2023, a trend that has continued even through years of political instability and conflict escalation (Figure 4).

Figure 4. Changes in agricultural input use, 2013 – 2024



Source: Myanmar Agriculture Performance Survey and Comtrade

Despite farmers widely reporting increasing weather unpredictability, more severe floods and droughts, and irregular rainfall, the adoption of climate-smart practices has been limited. Use of organic fertilizer has increased modestly, while gains in direct seeding are linked to labor shortages rather than climate-related decision-making. Uptake of other climate-smart practices remains limited, including short-duration or early maturing varieties (30 percent), climate-resilient varieties (41 percent), and biological pest management (22 percent). Widespread burning of crop residues after harvest, practiced by more than one-third of rice farmers after the monsoon harvest, remains a concern given its association with soil nutrient loss, air pollution, and environmental degradation.

Rising operating costs and declining profitability are placing increasing financial pressure on private input suppliers and service providers. Retailers and service providers report declining sales volumes, tighter cash flow, and growing difficulty accessing working capital, leading to reduced inventories, delayed equipment replacement, and scaled-back services, with greater reliance on short-term borrowing. This is occurring even as many continue to extend informal credit and flexible payment arrangements to farmers, increasing their own financial exposure in the process.

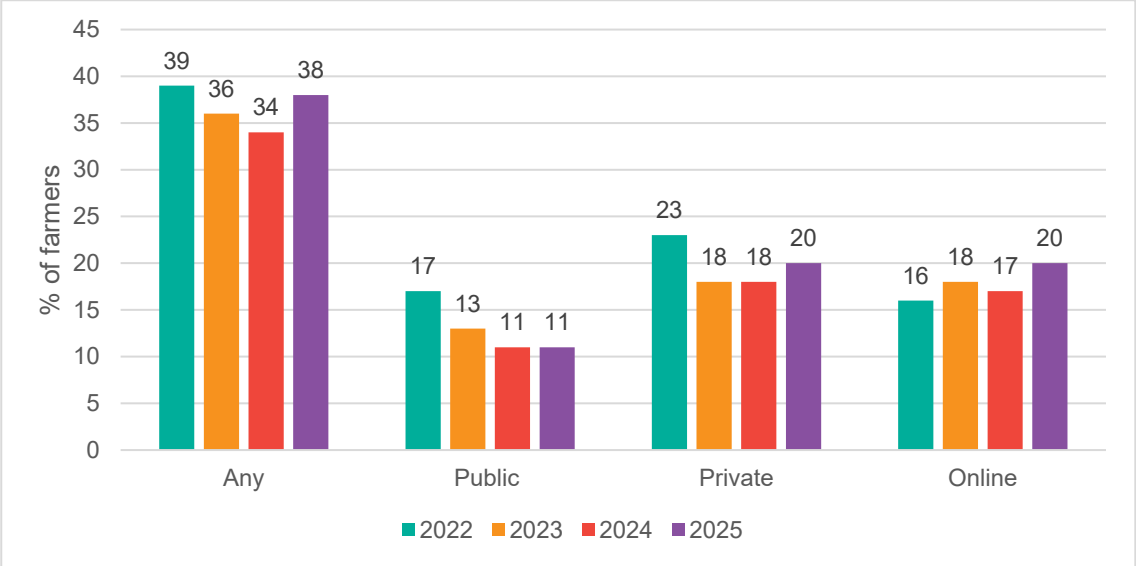
Despite these constraints, private input retailers and service providers continue to play a central role in sustaining farmers' access to inputs, services, credit, and advice. Input retailers commonly bundle fertilizer, seed, and agro-chemicals with agronomic advice and short-term credit at monthly interest rates of around 2 percent. Mechanization service providers frequently offer flexible payment arrangements, including zero-interest late payments that allow farmers to delay settlement until after harvest. These practices help sustain input use and service provision under conditions of limited formal finance and widespread labor shortages, even as they increase financial exposure for retailers and service providers.

3.2. Agricultural Extension and Crop Advisory Services

Agricultural extension and crop advisory services have undergone rapid change globally, with delivery modalities shifting from public to private provision and from in-person to digital channels, while the scope of extension's mandate has broadened beyond the promotion of productivity-enhancing technologies (Davis et al., 2025). Extension workers continue to serve as frontline agents of change within these systems, supporting efforts to enhance productivity, strengthen resilience to shocks, and conserve the natural resource base on which agrifood systems depend.

Agricultural extension use in Myanmar was already lower than in neighboring countries before the current crisis, with each extension agent serving far more farmers on average than in Thailand or Vietnam (MAPSA, 2024c). Use declined further after 2020, falling from 39 percent of farmers reporting receipt of crop advice in the dry season of 2022 to 34 percent in 2024, driven largely by a sharp decline in public extension following the coup (Figure 5). Overall usage rebounded to 38 percent in the 2025 dry season.

Figure 5. Agricultural extension use, dry season, 2022-2025



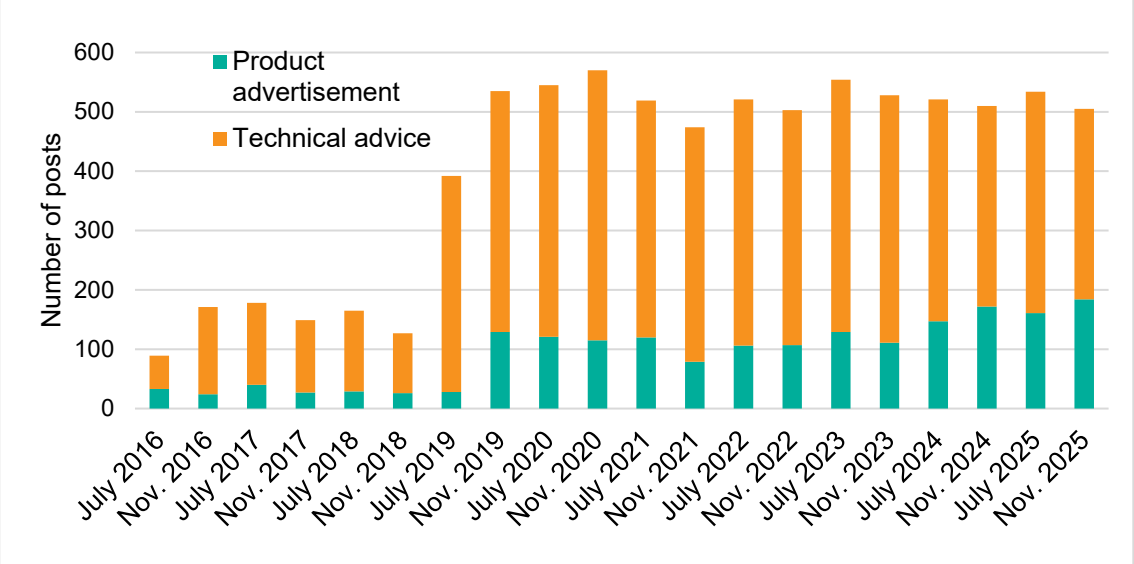
Source: Myanmar Agricultural Performance Survey

Among farmers accessing extension services, the private sector is the main provider, serving 20 percent of farmers, followed by the public sector (11 percent) and NGOs (5 percent) (Figure 5). The largest private provider is the chemical distribution company Awba, with 42 percent of farmers receiving private extension reporting obtaining it from Awba during the 2025 dry season, and Wisarra the second most important provider at 18 percent.

Local agro-input retailers are an important yet often overlooked source of agricultural information (Goeb et al., 2026). In a mid-2024 survey, nearly half of farmers reported receiving agricultural advice from their main agro-input retailer, advice that frequently relates to products sold by the retailer but may also address broader agronomic issues. Despite their reach, farmers generally trust agro-input retailers less than other information sources, with trust ranking below that in fellow farmers and in public and private extension agents, and above only that in mills.

Digital agricultural extension expanded rapidly prior to 2020, driven by the expansion of mobile networks and the diffusion of affordable smartphones, before declining following the political crisis and subsequently rebounding, with 20 percent of farmers reporting use during the 2025 dry season. These services are predominantly delivered through Facebook by private companies and social enterprises, some of whose pages have millions of followers, while the role of the public sector on these platforms remains minor. The total number of Facebook posts by agricultural companies and organizations more than tripled between July 2015 and November 2019, with particularly strong growth in 2018 and 2019 (Figure 6). Following an initial drop in 2021 when Facebook was banned and communication disruptions were severe, digital extension activity has increased again despite persistent internet constraints and reduced mobile network access.

Figure 6. Number of posts on agricultural topics by major Facebook groups of firms/organizations, 2016 – 2025



Source: Updated based on MAPSA (2024)

On digital platforms, content has shifted from primarily technical information toward product promotion, particularly among agrochemical distributors. Technical information continues to account for a substantial share of content, representing approximately half of agrochemical distributor posts in November 2025, while publicity is much less prominent for agricultural advisory firms such as Proximity Designs, Village Link, and Greenway.[3] Nevertheless, the importance of product-promotion content has increased rapidly over time across all posts combined (Table 2).

Table 2. Facebook page activities of major agricultural firms/organizations, November 2025

Type of Business	No. of Facebook Page Followers ('000s)	Posts November 2025			Interactions per post*
		Product Advertisements	Technical Information	Total	
Agricultural distributors	3,707	128	127	255	36,791
Agricultural advisory firms	1,313	56	194	250	6,458
Public Sector	17	29	47	76	471
Total	5,037	213	368	581	43,720

Notes: *Average of last 5 posts in November '25.

The use of alternative digital platforms beyond Facebook is rapidly emerging. Several firms have developed proprietary apps, most notably Proximity Designs, Greenway, and Village Link, and some organizations additionally operate call centers where agronomists provide direct assistance to farmers. While Facebook groups have enabled farmers to discuss agricultural problems, particularly pest and disease issues, their importance appears to be declining following Facebook restrictions, while TikTok has grown rapidly in importance. By December 2025, nearly 1.4 million users were following the TikTok pages of major agricultural companies, most prominently Awba and Marlarmyaing, with approximately 1,500 videos available and nearly 9 million likes accumulated.

[3] Technical information includes crop prices, market and weather updates, and agronomic guidance on pests, diseases, and input use. Product advertisement includes promoting specific inputs, retailer contacts, branding, and promotional campaigns.

Unlike Facebook, which has substantial technical content, most TikTok videos are promotional in nature. Telegram and Viber are also used by some companies but remain less important overall.

Agricultural extension use remains insufficiently inclusive across both digital and in-person modalities. Less educated, more remote, female, smaller-scale, and conflict-affected farmers are all significantly less likely to access extension services. Age differences are also pronounced, with older farmers relying more on in-person services and younger farmers making greater use of digital extension. Notably, while farmers in the most insecure areas use in-person extension substantially less (by 11 percentage points), they are able to rely on digital extension services at similar rates to farmers in more secure townships.

The impact of agricultural extension, especially via emerging digital platforms, on agricultural performance remains poorly understood. Existing evidence suggests that digital extension can have significant effects — a randomized controlled trial evaluating two digitally supported extension approaches for fall armyworm management among maize farmers found that both designs improved farmer knowledge (Goeb et al., 2025b) — but substantial knowledge gaps remain, particularly given the rapid decline in public extension and prevailing insecurity. Strengthening metrics and improving data quality will be essential for informing effective extension strategies. An important interpretive question also arises given the dominance of private extension channels: farmers may distinguish between general agronomic advice and advice linked to specific product purchases, and where commercial motives are obvious, this may shape how information is evaluated and acted upon. Understanding how farmers balance informational value against perceived commercial motives will be important for evaluating the effectiveness and long-term sustainability of these extension models.

3.3. Agricultural Finance

Access to finance for both farmers and agribusinesses is a foundational component of agrifood system development, enabling farm-level investment in productive inputs and supporting midstream businesses that keep credit and commodities flowing through value chains. Cross-country evidence links expanding agricultural credit to increased farm productivity and sectoral growth (Seven and Tumen, 2020), and in Thailand, microfinance expansion increased rural credit use, agricultural investment, and income growth for farmers (Kaboski and Townsend, 2012). Evidence from Myanmar's Delta region shows substantial returns to seasonal rice credit, with an additional dollar of credit leading to roughly a two dollar increase in rice farming income (Aung et al., 2019). While evidence on agribusiness credit is limited, research on developing countries' small- and medium-scale enterprises similarly suggests that firm access to credit has sustained positive returns (Ambler et al., 2023), though credit interventions are generally more effective in combination with complementary supports such as insurance and market access (Karlan et al., 2014; Ambler et al., 2023).

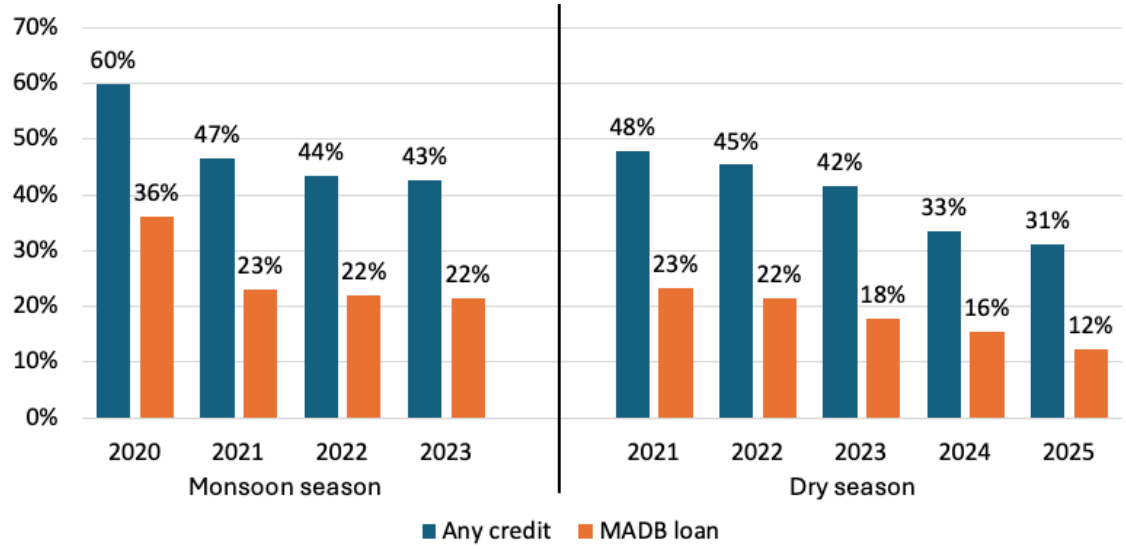
Myanmar's agricultural finance system comprises a diverse mix of formal and informal lenders providing seasonal production credit to farmers. Formal providers include the state-supported Myanmar Agricultural Development Bank (MADB) and microfinance institutions (MFIs), while private commercial banks play a very limited role in farm-level financing. Informal credit is also a critical component of the system, particularly through inputs provided on credit by small- and medium-scale agribusinesses, as well as financing drawn from family and friends, village revolving funds, and in some cases pawn shops and local moneylenders.

Recent evidence from the 2025 monsoon season indicates that farmer credit constraints are significant but not universal, with one in four farmers unable to access the amount of credit they wanted for inputs. Constraints are more prevalent in remote areas, while farmers in the Dry Zone are less likely to be constrained, partly due to high borrowing rates from family and friends. Credit use is positively associated with formal land documentation and agribusiness relationships, with

farmers holding a Form-7 certificate 12 percentage points more likely to borrow and those with established relationships with input retailers 15 percentage points more likely. Among current borrowers, 38 percent wanted a larger loan than they obtained, while 64 percent of non-borrowers indicated that they did not need credit, suggesting that non-borrowing does not always imply market exclusion.

Farm-level use of agricultural credit has declined significantly since 2021, with the share of farmers receiving credit during the monsoon season falling from 60 percent in 2020 to 43 percent in 2023, and dry season credit use dropping from 48 percent in 2021 to 31 percent in 2025 (Figure 7). These declines reflect widespread disruptions in the banking sector and public services following the political crisis, as well as increased uncertainty at the farm level.

Figure 7. Share of farmers receiving agricultural credit and MADB loans, by season and year



Source: Myanmar Agricultural Performance Surveys

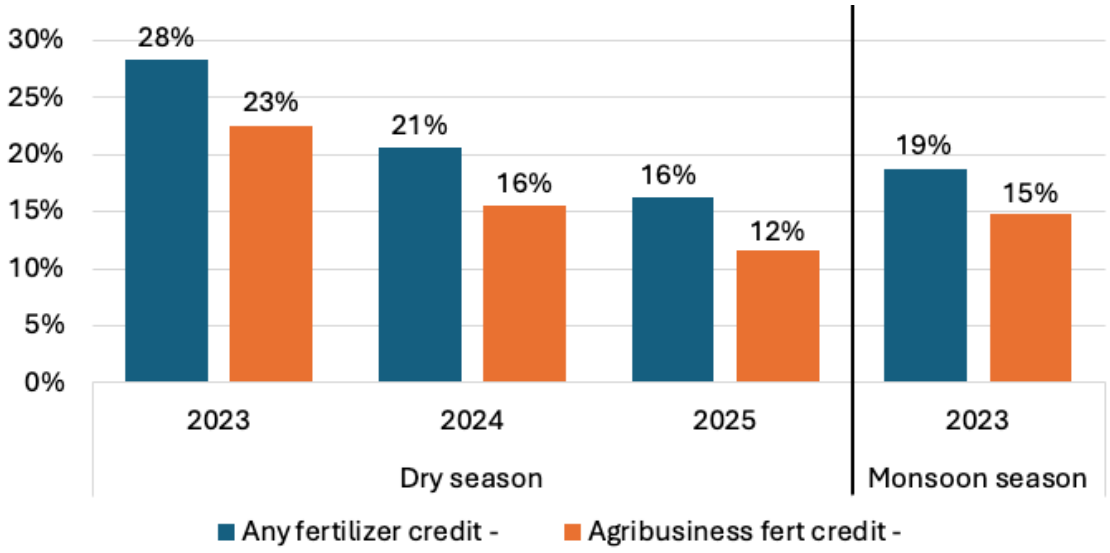
The Myanmar Agricultural Development Bank (MADB) has historically been the dominant formal lender, but farm-level receipt has declined since 2021. MADB provides seasonal loans of MMK 150,000 per acre for paddy and MMK 100,000 per acre for other selected crops, both capped at up to 10 acres, at a 5 percent seasonal interest rate, with eligibility requiring deposit of the original Form-7 land use certificate. Lending is heavily tilted toward paddy production, accounting for 90 percent of disbursements, and toward the monsoon season at 80 percent. While official total disbursement figures have been relatively stable, actual disbursements have declined markedly since 2020, and the regional distribution of recipients has shifted, with the Delta's share rising from 36 to 43 percent between 2020 and 2023 and the Dry Zone's share declining from 43 to 28 percent between 2021 and 2025 (Appendix Figure A.1). The centrality of MADB in agricultural finance has diminished correspondingly, with the share of all credit recipients receiving an MADB loan falling from roughly 60 percent in 2020 to 50 percent in 2023, and below 40 percent in the 2025 dry season (Figure 7). A separate Special Economic Loan program provides additional government support, though it reaches less than 10 percent of farmers and receipt has declined recently.

MFIs are an established component of the agricultural finance system, though they reach relatively few farmers. MFI agricultural lending declined after 2021, falling from less than 10 percent of farmers in 2020 to 3 percent in the 2023 monsoon season and 2 percent in the 2025 dry season, though agricultural lending still accounted for about one third of MFI portfolios in 2023. Crop

production loans carry inherent risks for MFIs, including large loan amounts for input purchases, long repayment cycles over the growing season, covariate production risks, and their structure as individual rather than group-based loans with limited risk sharing. Repayment difficulties increased dramatically after 2021 but have recently returned to low levels, with more recent loans showing stronger repayment rates (Htay Htay et al., 2024), pointing to resilience in the sector as MFIs adapt their practices and portfolios under difficult operating conditions.

Agribusinesses, particularly input retailers, are a central but often overlooked source of informal agricultural credit for input purchases. The share of farmers purchasing fertilizer on credit fell from 28 percent in the 2023 dry season and 19 percent in the monsoon season to 16 percent in the 2025 dry season (Figure 8), yet agribusinesses, including input retailers, traders, and processors, continue to account for roughly three quarters of fertilizer credit sources, highlighting their critical role in rural agricultural finance. Among agribusinesses, input retailers represent approximately 80 percent of agribusiness-provided fertilizer credit sources, with a median seasonal interest rate of around 4 percent, comparable to MADB's 5 percent seasonal rate.

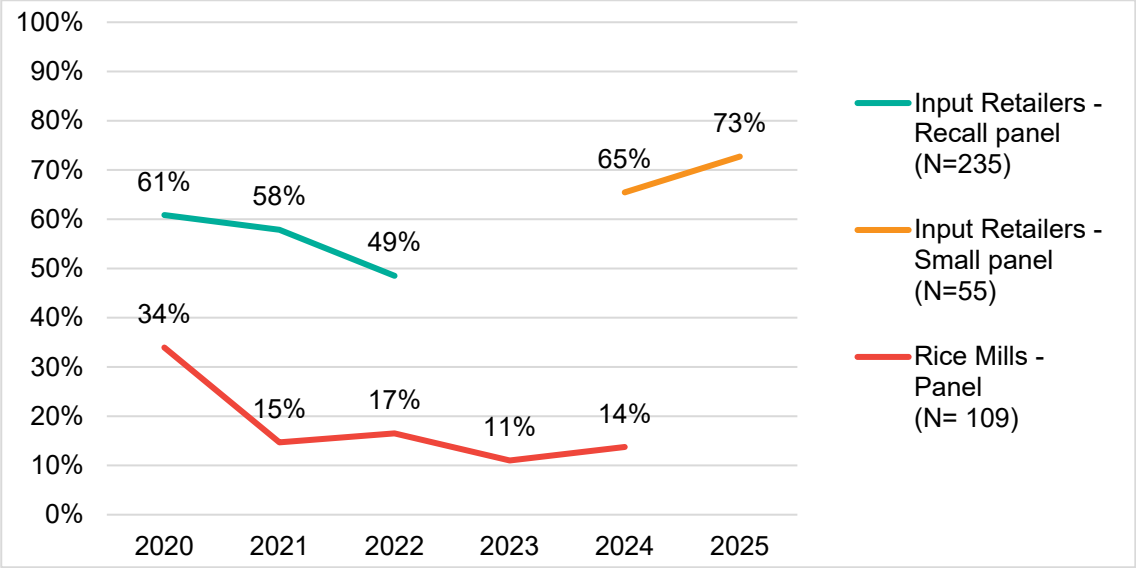
Figure 8. Share of farmers using fertilizer credit from agribusinesses and all sources, by season and year



Source: Myanmar Agricultural Performance Surveys

Agribusiness surveys confirm their central role in seasonal credit provision, though repayment challenges are increasingly evident. In the 2024 monsoon season, 65 percent of input retailers extended credit to farmers, compared to 14 percent of rice mills (Figure 9), and while the share of firms providing credit declined after 2020, input retailer credit provision has shown signs of recovery in 2024 and 2025. Among retailers providing credit, this was offered to an average of 46 percent of their farmer clients, indicating broad reach within their customer base. However, more than half of credit-providing input retailers reported challenges in repayment collection, compared to about one-third of rice mills, and about half of both business types reported increased farmer demand for credit. Agribusiness credit therefore remains widespread but is operating under stressed conditions, with informal finance partially absorbing the contraction in formal credit access.

Figure 9. Share of input retailers and rice mills providing monsoon season credit to farmers, by year



Source: Input Retailers Survey – 2020-2022; 2024-25. Rice Millers Survey (2020-2024)

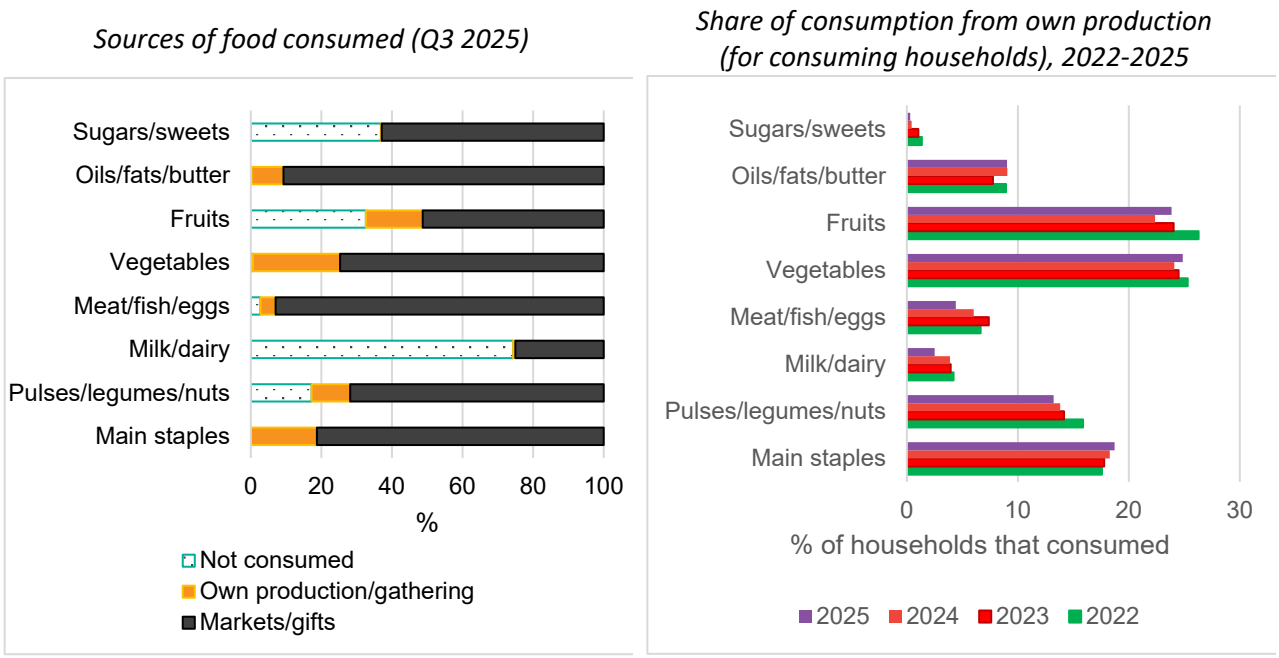
Demand for finance among agribusinesses is increasing, though access constraints are tightening. For input retailers, stock received on credit from suppliers has grown in importance, with the share receiving inputs on credit rising from 36 to 41 percent between 2024 and 2025 and the share of all stock taken on credit increasing from 12 to 16 percent over the same period, while formal loans remain rare, accessed by only 5 percent of retailers. Among rice mills, loan and credit use increased from 15 to 19 percent between 2023 and 2024, predominantly short-term and used for paddy procurement, though about one third is directed toward investment in machinery and parts, with about two-thirds of borrowing drawn from private banks. Despite rising demand, reported difficulty acquiring new loans or credit increased among both input retailers, from 25 to 32 percent between 2024 and 2025, and rice mills, from 4 to 9 percent between 2023 and 2024.

3.4. Agricultural Value Chains and Markets

Agricultural and food markets underwent rapid transformation following the onset of market reforms in the 2010s, characterized by upscaling, quality improvements, and modernization among agricultural marketing and processing businesses (MAPSA, 2024b). Most of this transformation took place during the relatively stable years between 2013 and 2019, and although modernization continued during the subsequent crisis period, its pace decelerated considerably. The transformation process has also not been uniformly inclusive, with smaller and more remote firms less likely to adopt modern technologies and practices.

Agricultural markets currently play a crucial role in Myanmar, with most food consumed purchased rather than produced at home. Based on a nationally representative household survey conducted in 2025, the share of food obtained from own production is low, at less than 20 percent for all food groups except fruits and vegetables, and approximately three-quarters of households' rice consumption is obtained from the market (Figure 10). This dependence on markets for food purchases extends to rural areas, where most foods consumed are also sourced from markets.

Figure 10. Share of sources of food consumed by households



Source: Myanmar Household Welfare Survey

While food is often distributed through nationwide networks, localized distribution systems remain most important. In 2025, about three-quarters of households that purchased rice reported that it originated from their own state or region, and nearly half from within their own village tract. When rice was sourced from outside the state or region of residence, it primarily came from the Delta (16 percent) or the Dry Zone (8 percent), with the Hills and Mountains, Coastal areas, and imports from other countries accounting for only a small share of national rice market flows.

The majority of agricultural output is sold rather than retained for home consumption, with paddy the most important crop in terms of market participation. In 2025, 49 and 16 percent of farmers that sold produce reported rice as their most important crop sold in the monsoon and dry seasons respectively, with paddy farmers selling 56 percent of their production in the monsoon season and 83 percent in the dry season. Substantial differences are observed across agro-ecological zones and farm sizes, with higher commercialization rates in the Delta and among larger farms.

Agricultural markets have demonstrated considerable resilience over the past four years. Most farmers continue to sell their agricultural products, relatively few complaints have been reported regarding the functioning of the marketing system, and only a small share reports a lack of choice among traders. Households, including those in rural areas, have continued to rely primarily on markets for their food purchases. At the same time, the combined value of exports of the three major agricultural commodities, pulses and beans, maize, and rice, increased from USD 1.9 billion in 2019 to USD 3.8 billion in 2024, though this rise is partly attributable to higher international commodity prices prior to 2025 and to a shift from informal cross-border trade toward formal maritime trade channels. [4]

This overall resilience has nonetheless been challenged by insecurity, which poses a significant obstacle to trade for many farmers and traders. More than 30 percent of traders reported being affected by local and regional conflicts in 2024 (MAPSA, 2024a), and insecurity also substantially disrupts farm operations, with farmers potentially refraining from traveling to purchase inputs, sell or store outputs, or even cultivate their land. Nationally, 19 percent of farmers reported being unable to

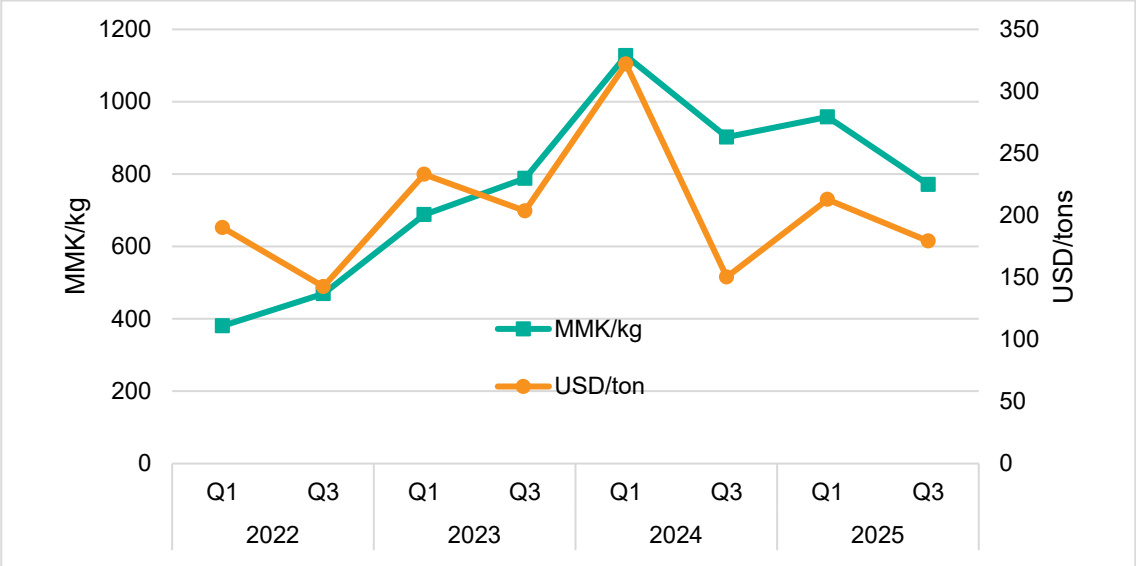
[4] UN Comtrade database

move freely without serious security concerns in mid-2025, and 8 percent indicated that they were afraid to store agricultural produce at home due to the risk of confiscation or destruction, with mobility constraints most pronounced in the Dry Zone and Coastal areas.

Significant market access constraints continue to affect large parts of the country. Market access is a key determinant of farm commercialization, and remoteness, particularly limited access to urban markets, is a major constraint for rural Myanmar. Even prior to the current crisis, infrastructure deficits were substantial, with around 20 million people living in villages without access to an all-season road and approximately 25,000 villages, home to about 9 million people, not connected by any road at all (ADB, 2017). An additional 20,000 villages comprising 11 million people were connected only by roads that were not passable in all seasons. Given limited recent investment in infrastructure and heightened mobility constraints since 2021, market access challenges have worsened for much of the rural population, further hampering agricultural commercialization in more remote areas.

Structural challenges also strain markets, with substantial price volatility observed over the past four years. Between 2021 and 2025, most commodity prices rose rapidly, driven by higher international prices and exchange rate depreciation, before reversing more recently. In the 2025 dry season, prices of major crops declined substantially compared to the previous year, with paddy prices falling by 15 percent year-on-year (Figure 11). Given the significant depreciation of the Myanmar Kyat over the past four years, temporal price comparisons in local currency are challenging, though even when expressed in USD, paddy prices have exhibited considerable volatility over time, impacting farm profitability.

Figure 11. Farmgate prices for paddy rice



Source: Myanmar Agricultural Performance Survey (MAPS)

Agrifood value chain actors have faced multifaceted challenges that have revealed both vulnerabilities and resilience within the system (Goeb et al., 2025a). Banking disruptions initially had a substantial impact on agribusinesses across the value chain, limiting working capital, reducing purchase volumes, and driving some businesses to adopt less formal financial methods. Transport disruptions have emerged as a persistent barrier, particularly for actors reliant on spatially dispersed goods such as crop traders, input retailers, and food vendors, with increased transport costs and mobility restrictions contributing to a significant price wedge between farmgate and retail prices and making foods less affordable for consumers. Electricity and fuel access have been especially critical constraints for rice millers, who rely on consistent energy to process paddy, and labor scarcity has

become an increasingly significant challenge, particularly since the enforcement of the Military Service Law at the beginning of 2024.

Food safety and quality remain important but often neglected issues in domestic markets. Despite some improvements, modern retail systems remain underdeveloped in Myanmar (MAPSA, 2024b), and limited access to reliable electricity has constrained the functioning of an effective cold chain. Inadequate practices along segments of the food value chain further reduce the availability of safe food, with recent research finding unacceptably high levels of Salmonella, elevated levels of yeast and molds, and in some samples mercury and arsenic concentrations exceeding recommended thresholds in fermented fish sold in retail markets (Rizaldo et al., 2024). While the overall quality of some products has improved over time, for example reduced foreign matter in marketed rice, distortive reference pricing systems in certain markets have created incentives for quality adulteration and misreporting.

These concerns extend beyond retail markets into commercial food production more broadly. Data from a private food testing laboratory, which conducts testing primarily for commercial businesses including those preparing products for export, show contamination detected at striking rates across all tests conducted between January 2022 and March 2026 (Table 3). Aflatoxin, a naturally occurring toxin produced by molds on crops is associated with liver cancer and impaired child growth, was detected in 84 percent of samples tested for mycotoxins. Heavy metal residues including chromium, cadmium, and arsenic, which can accumulate in the body and cause long-term health effects, were found in 30 to 57 percent of samples tested. Microbial contamination, which can cause acute foodborne illness, was also widespread, with yeasts and molds detected in 41 percent of samples and pathogens such as Salmonella and E. coli detected in 15 to 21 percent.

Table 3. Food contamination detection rates by category, January 2022 to March 2026 (%)

Contaminant	Detection Rate
Microbial Contamination	
- Yeasts and Molds	41.4
- Staphylococcus aureus	38.3
- Total coliform	26.3
- E. coli	21.1
- Salmonella	15.3
Heavy Metal Residues	
- Chromium	56.5
- Cadmium	32.8
- Arsenic	29.8
- Mercury	16.3
- Lead	7.5
Mycotoxins	
- Aflatoxin	84.2

Source: Linn (2026)

Import restrictions have posed significant challenges but have also generated new opportunities for domestic market development. The livestock sector provides a clear example, where substantial foreign investment in Myanmar's animal feed sector during the 2010s played a pivotal role in modernizing and expanding commercial livestock production, but the feed sector remains heavily dependent on imported inputs including poultry parent stock, veterinary products, and protein-rich

feed ingredients. In response to import restrictions, the sector has increasingly turned to domestic sources of protein-rich feed materials, a pattern that has emerged across other subsectors previously reliant on imported inputs, including processed food, oilseed, and wheat. While this shift toward local procurement has often resulted in less efficient and more costly production processes, it has also created new market opportunities for domestic producers.

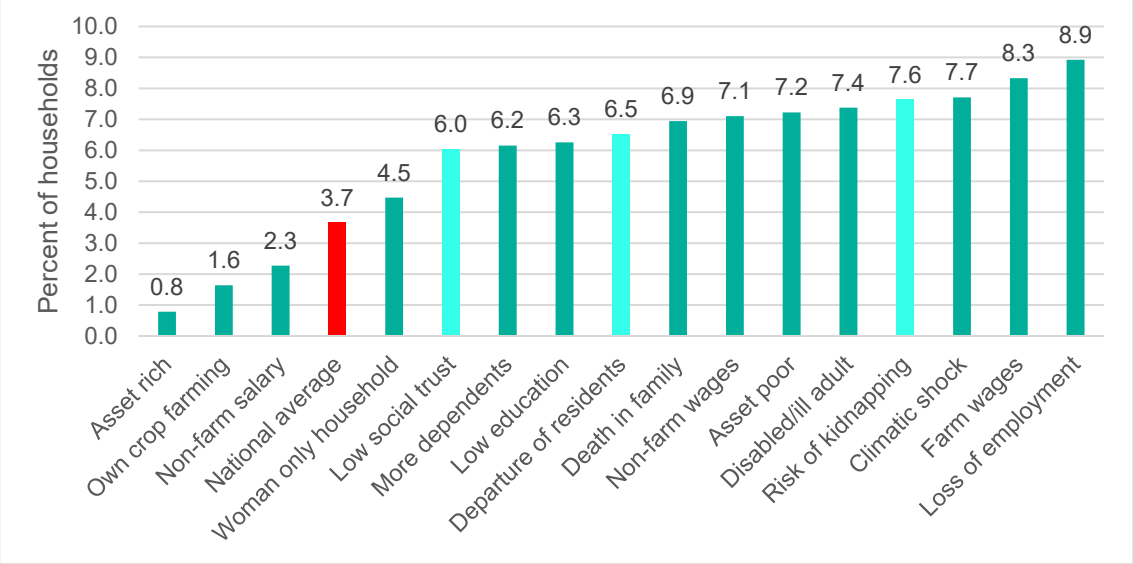
Myanmar's international market environment is changing rapidly, with a pivot away from land border trade toward sea trade, declining tariffs, and increasing non-tariff costs. Myanmar has benefited from tariff reductions over time, including through significantly reduced ASEAN trade tariffs and the "Everything but Arms" arrangement with the European Union. At the same time, agricultural exports face increasingly stringent phytosanitary and other non-tariff measures, with the costs of these measures for rice estimated to have tripled between 2005 and 2021 (MAPSA, 2024b). For maize exports to Thailand, new rules require that produce originate from farms that do not burn crop residues, with importers required to demonstrate compliance through detailed documentation identifying production sources and cultivation practices.

3.5. Food Security and Nutrition

Food insecurity is widespread in Myanmar, with diets heavily concentrated in staples and lower consumption of protein- and nutrient-dense foods, and the cost of a healthy diet substantially higher than the typical household food basket, particularly in conflict-affected areas. Food security and nutrition in Myanmar are tracked from April 2022 to July 2025 using four complementary indicators that capture hunger severity, diet quality, and nutritional vulnerability: the Household Hunger Scale (HHS) and the Food Consumption Score (FCS) at the household level, alongside the Minimum Dietary Diversity (MDD) and Minimum Meal Frequency (MMF) at the individual level.[5]

Roughly 2 million people in Myanmar, representing 3.7 percent of households, faced moderate or severe hunger across the April 2022 to July 2025 period. Hunger rates exceed 7 percent among households relying on farm or non-farm wage labor, asset-poor households, households with a disabled adult, those affected by climatic shocks, and households where a member lost employment (Figure 12), while asset-rich households and those primarily dependent on own-farm production or non-farm salaried work are significantly less likely to be hungry.

Figure 12. Percent of households that are moderately/severely hungry, pooled average April 2022-July 2025



[5] An explanation of each indicator is included in the Appendix.

Source: Myanmar Household Welfare Survey
Note: Low social trust, departure of residents, and risk of kidnapping are community level indicators.

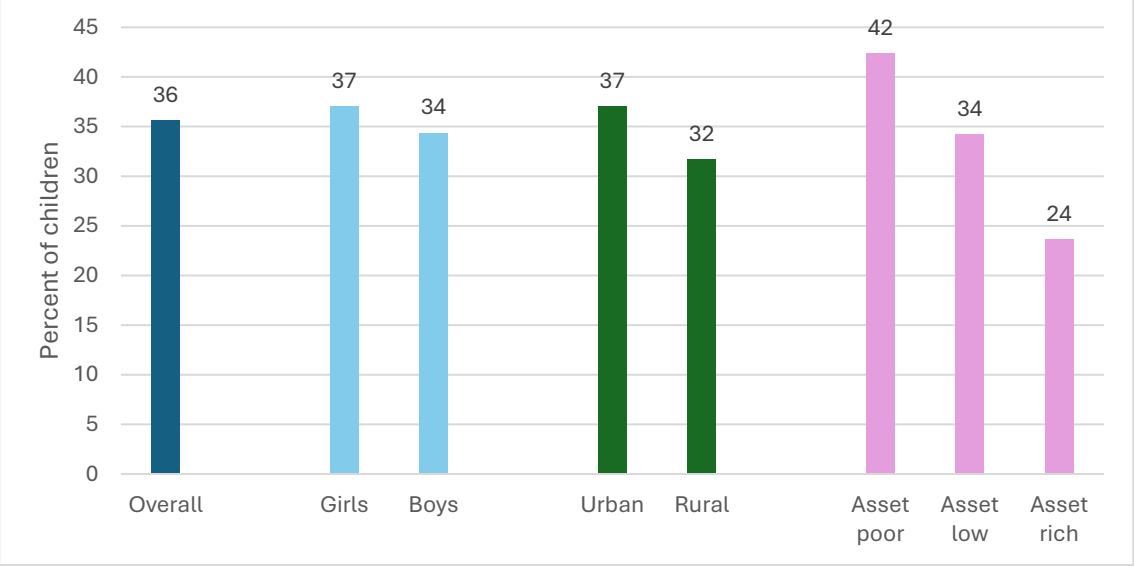
Over the same period, 16 percent of households, roughly 8.6 million people, had borderline or poor food consumption, with rural households significantly worse off at 17 percent compared to 10 percent of urban households. While income is strongly associated with acceptable food consumption, education emerges as one of the most important factors, with 23 percent of households with low-educated adults having borderline or poor consumption. Female-only households also fare relatively worse on this indicator than on reported hunger.

Conflict intensity and agro-ecological factors are key predictors of food consumption in Myanmar, with higher numbers of fatalities associated with lower food consumption scores and adequate and timely rainfall, elevation, and proximity to agricultural areas associated with higher scores, highlighting the importance of physical access and local production environments for adequate food consumption (Guo, 2024).

Women consistently have poorer diet quality than men, and the gap has widened since 2022 (Tauseef et al., 2025). Across the survey period, 28 percent of women had poor diet quality compared to 25 percent of men, an average gap of 3 percentage points that widened from 1.2 percentage points at the end of 2022 to 3.8 percentage points in 2023–2025. This gap is driven by lower consumption among women of pulses, meat and fish, dark green vegetables, and other vegetables.

Diet quality among young children is poor and worse than among adults, with 36 percent of children aged 6–23 months having inadequate dietary diversity across the survey period (Figure 13). Girls, urban children, and asset-poor children consistently show lower dietary diversity than their counterparts. A related concern is that 26 percent of children aged 6–23 months were not fed according to minimum meal frequency guidelines, with 28 percent of girls below this threshold compared to 24 percent of boys, and 31 percent of urban children compared to 23 percent of rural children.

Figure 13. Percent of children 6-23 months with low/inadequate Minimum Dietary Diversity, pooled average April 2022-July 2025



Source: Myanmar Household Welfare Survey

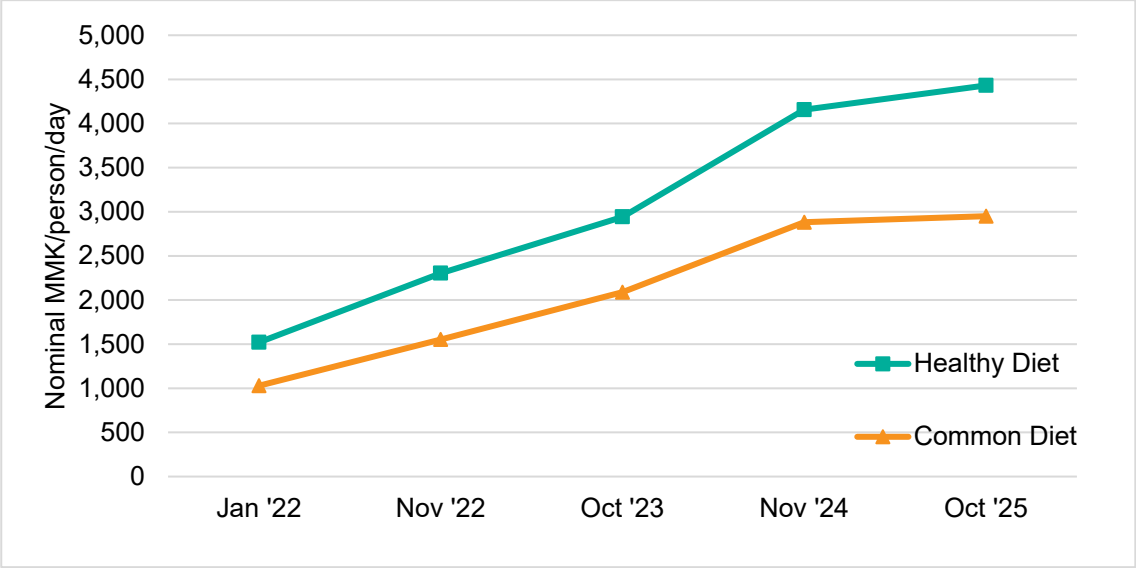
Diets are heavily concentrated on staples, with limited consumption of nutrient-dense foods. Nearly all households consumed cereals, grains, roots, tubers, oils, and fats in the seven days prior

to the survey, while vegetables and leaves are consumed 5.6 days per week and meat, fish, and eggs 4.4 days. In contrast, fruits and pulses, legumes, and nuts are consumed only 2.6 and 2.5 days per week respectively, and milk and other dairy products less than one day per week. These patterns have remained largely stable over the period 2022 to 2025, with two notable shifts: dairy consumption declined from 1.2 to 0.6 days per week, while sugar and sweets consumption has increased since April 2023. Consumption gaps are largest for milk, pulses, and fruits, and have widened between 2022 and 2025, with the share of households not consuming dairy increasing from 70 to 76 percent, non-consumption of pulses rising from 17 to 20 percent, and most sharply, the share not consuming fruit more than doubling from 15 to 35 percent. These gaps are nutritionally significant, as dairy is a key source of high-quality protein and calcium, pulses provide plant-based protein and iron, and fruits supply essential vitamins and micronutrients.

Unhealthy food consumption is widespread among both adults and young children. Since September 2024, data collected in the 24 hours prior to the survey show that 40 percent of adults consumed soft drinks, 58 percent sweet foods or beverages, 37 percent salty, fried, or fast food, and 11 percent processed meats, with consumption slightly higher among men, urban residents, and wealthier households. Among children aged 6–59 months, levels are even more concerning, with 40 percent consuming soft drinks, 72 percent sweet foods or beverages, 47 percent salty, fried, or fast food, and 8 percent processed meats. No gender differences are observed among children, but consumption is higher in urban and wealthier households.

Food prices have risen substantially over the past four years, making a healthy diet unaffordable for many. Between April 2022 and July 2025, the cost of diets nearly tripled, rising by 187 percent for the common diet and 191 percent for the healthy diet (Figure 14), with the cost of the healthy diet consistently around 50 percent higher than the common diet. Regional disparities are pronounced, with the average cost of a healthy diet 32 percent higher in the West (Rakhine and Chin), 11 percent higher in the Northeast (Kachin and Shan North), and 6 percent higher in the Southeast (Kayah, Kayin, Mon, and Tanintharyi), compared to only 9 percent, 5 percent, and 1 percent higher respectively for the common diet in these regions.

Figure 14. Common and healthy diet prices, April 2022-July 2025

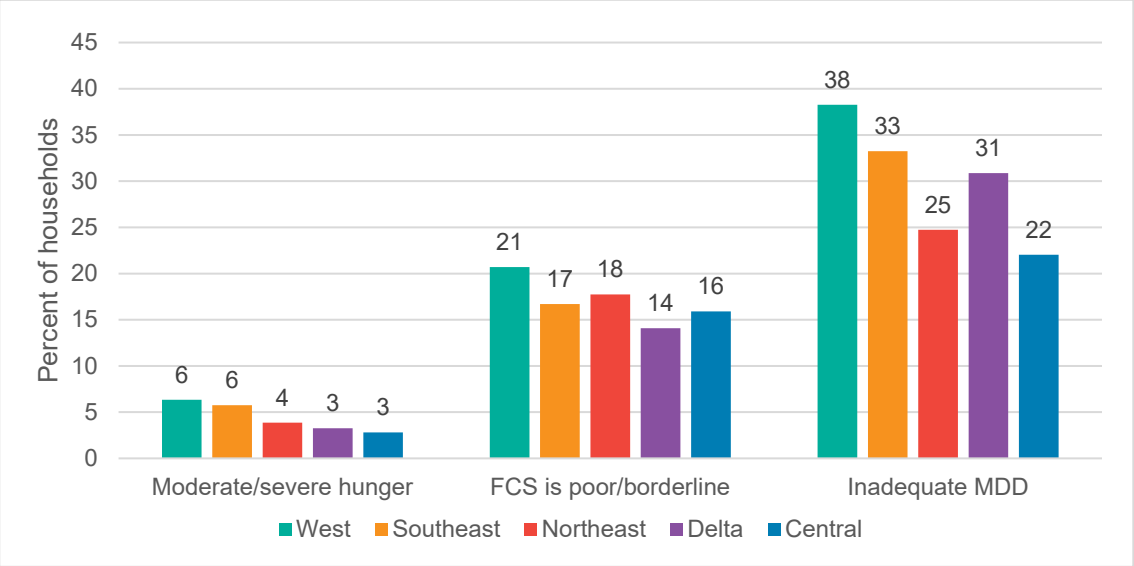


Source: Myanmar Household Welfare Survey

The West, comprising Chin and Rakhine, has experienced the most severe food security challenges over the period 2022 to 2025, with 6 percent of the population facing moderate or severe

hunger, 21 percent exhibiting poor or borderline food consumption, and 38 percent having inadequate dietary diversity (Figure 15). The Southeast ranks second worst, with 6 percent of households experiencing hunger and 17 percent reporting poor or borderline food consumption, followed by the Northeast (Kachin and Northern Shan), where the food security situation has deteriorated over the survey years.

Figure 15. Food security indicators by region, pooled average April 2022-July 2025



Source: Myanmar Household Welfare Survey
Note: West- Rakhine, Chin; Southeast- Kayin, Kayah, Mon, Tanintharyi, Northeast- Kachin, Shan North, Delta-Ayeyarwady, Bago, Yangon; Central- Sagaing, Magway, Mandalay, Nay Pyi Taw

Own production plays a key role in supporting food security, with farm households consistently the most food secure, showing the lowest levels of hunger and inadequate dietary diversity. Between October 2024 and January 2025, farmers sourced 46 percent of staples, 41 percent of vegetables, and 44 percent of fruits from their own production. While conflict significantly reduces dietary diversity, particularly by constraining access to purchased nutrient-dense foods, households with more diverse crop production are better able to maintain diet quality, partially offsetting these adverse effects (Takeshima et al., 2026).

4. OPPORTUNITIES FOR STRENGTHENING RESILIENCE

The evidence presented in this paper, alongside perspectives from practitioners and stakeholders working across Myanmar's agrifood system, points to a number of areas where targeted engagement could strengthen resilience. The private sector has been the defining actor in sustaining the agrifood system under difficult conditions, and the opportunities identified here largely center on expanding and strengthening its capacity to continue doing so.

4.1. Agricultural Inputs and Production

Promoting appropriate agricultural technologies in conflict- and climate-affected areas requires targeted attention, particularly for smallholders and more remote households whose livelihoods are most vulnerable. Sustaining and expanding development assistance alongside humanitarian assistance in these areas will be important to support the transition toward more productive and sustainable farming systems. The private sector is well placed to play an important role, particularly in conflict-affected areas where public sector agricultural service delivery has contracted, and

approaches that strengthen existing private sector actors rather than substituting for them are more likely to be sustainable. The rising use of pesticides, coupled with weak regulatory and enforcement mechanisms, raises growing public health and environmental concerns that warrant monitoring and attention. While the shift to direct seeding offers benefits in terms of labor efficiency and lower methane emissions, adoption of complementary practices including improved weed management and integrated crop management techniques could help reduce the yield gap with transplanted paddy.

Scaling economically viable organic soil amendments could build on the modest increase in organic fertilizer use among farmers. Myanmar's chemical fertilizer supply is heavily dependent on imports, leaving prices and availability exposed to global market shocks and trade disruptions. This creates a structural opening for the production and use of domestically produced organic fertilizers. Several companies are already producing organic fertilizers, but production would need to scale significantly to make a meaningful contribution to meeting fertilizer demand. Marketing and information sharing on how to use organic fertilizers will be important, and several of the companies producing organic fertilizers also manage digital extension services, providing a natural channel for farmer education. Financial services will be required to scale up production, stock input dealers, and provide farmers with credit to purchase the product.

Expanding the types of mechanization services available to farmers could build on partnerships with the existing and extensive network of mechanization service providers. Introducing technology such as direct seeder and fertilizer delivery machines could expand the services available to farmers, helping overcome the labor shortages that have driven the shift to direct seeding while improving yields through more precise fertilizer placement. Marketing of these services and associated extension information can leverage digital extension platforms, and financing will be required both for machinery purchase and potentially for working capital that allows service providers to on-lend to farmers.

4.2. Agricultural Extension and Crop Advisory Services

Given persistently low and unequal access to extension services, more inclusive outreach is needed, combining targeted in-person support in underserved areas with strengthened digital delivery where physical access is constrained, with particular attention to women, less educated, remote, and conflict-affected farmers. As agrochemical distributors dominate both in-person and digital advisory services, promoting high-quality agronomic content and ensuring clear separation between technical advice and product promotion is important, and partnerships that leverage private sector reach while safeguarding informational integrity represent a practical way to achieve this. The rapid expansion of digital platforms, including the emergence of TikTok as a significant channel where most content is promotional rather than technical, creates opportunities to scale cost-effective advisory services but requires investments in digital literacy, content quality control, and monitoring systems to assess impact. Strengthening data systems and promoting rigorous impact evaluations will be critical to understanding what works under conditions of insecurity and market disruption, and to designing extension models that balance productivity and sustainability objectives.

Facilitating partnerships between large firms or trade associations and digital extension services to address supply chain risks offers another opportunity. As international markets become more discriminating, solutions for supply chain management and traceability become more important, with one recent example being green gram shipments rejected from China due to detected pesticide residues (GNLM, 2025). One digital platform is already offering a traceability solution, and large firms or trade associations could partner with such platforms to identify existing clusters of production and source raw goods with traceability and extension support to farmers so they meet necessary quality requirements. Thailand's recent requirement that all maize be sourced from non-burned land

provides additional incentive to improve traceability and digital auditing. Agriprocessors also benefit from linkages to producers that can meet quality standards, and integration within these digital solutions of links to financing and recommendations on appropriate inputs creates partnership opportunities with financial institutions and input firms.

Expanding the responsible use of data analytics within digital extension platforms offers a further opportunity to extend services to other actors in the agrifood system. These platforms collect valuable agricultural data that could be analyzed and shared safely to support other agrifood system actors. Appropriate safeguards would be needed to ensure that platforms inform markets rather than create or manipulate them. Sharing market price information with farmers has been shown to increase their bargaining power, and analysis of production patterns can provide input dealers with greater clarity on upcoming demand, allowing them to target their marketing. Traders and agriprocessors also benefit from identifying zones of production to economize logistics.

4.3. Agricultural Finance

Despite the contraction in formal agricultural finance since 2021, agribusinesses, particularly input retailers, remain dispersed throughout the country including in areas where formal credit access has contracted most sharply, and represent the most tractable near-term opportunity for expanding farm credit provision. Strengthening agribusiness access to seasonal working capital would expand their capacity to extend credit to farmers, and bundling credit with complementary services such as market access, extension, and insurance is likely to yield stronger outcomes than credit provision alone. Targeted credit guarantees to finance critical segments of the agrifood system would help unlock investment in these areas, building on the experience of similar mechanisms supported by international development partners prior to 2021. Building on the recent growth of farmer financing through agribusinesses, financial institutions could further capitalize input retailers and mechanization service providers to on-lend to farmers, which would both increase firm sales and support the production of quality raw products for traders and processors.

Partnerships between banks or MFIs and civil society organizations or NGOs that work with farmer groups and local input dealers offer another way to derisk loans to producers. Many such organizations have ongoing activities providing limited inputs and primarily technical assistance to farmer groups. Transitioning development assistance from providing inputs to having farmer groups purchase inputs from the market is an important step toward sustainability, and working collaboratively, support to farmers from these organizations helps derisk loans from financial institutions directly with farmers or to local input dealers who then provide credit for inputs.

Crop insurance products represent a longer-term opportunity to reduce production risk. Previous efforts focused on crop insurance for rice did not prove commercially viable without significant subsidies. Focusing on specific segments of high-value crop production provides an opportunity to pilot insurance products, establish proof of concept, and attract other companies to expand these products. There are existing examples of firms providing guarantees on specific products, with successful claims having been paid out, demonstrating the feasibility of insurance products targeted at specific segments of the crop cycle.

4.4. Agricultural Value Chains and Markets

Maintaining secure mobility, predictable trade policies, and macroeconomic stability remains critical for the functioning of agricultural markets. Investments in rural infrastructure, especially all-season roads and improved market connectivity in remote areas, are essential to reduce the spatial price wedges between farmgate and retail prices that have widened considerably since 2021 and to improve agricultural commercialization in more remote areas. Support to value chain actors through improved access to finance and reliable energy services, including emerging solar and other

alternative energy options, would help mitigate cost pressures and enhance resilience. Strengthening food safety systems, including cold chain development, better enforcement of standards, and capacity development, is necessary to protect consumers, while investments in traceability and compliance capacity are increasingly required to meet stringent export market requirements. Ensuring that smaller and remote producers are not excluded from emerging market opportunities will require active and inclusive producer organizations and market arrangements.

Investing in alternative processing methods for perishable foods offers an opportunity to address the disruptions caused by logistical constraints and electricity shortages. Significant declines in fresh product sales have been reported, with some commodity clusters losing key markets. Producers have begun adapting, with examples including avocado producers partnering with oil extraction agribusinesses to shift from fresh sales to avocado oil, and large maize driers being established near production zones to allow farmers to preserve product value for future sale. Building on these adaptations, private sector investment in technologies that preserve perishable products, including approaches that incorporate alternative power sources, could expand market access for producers. Financial institutions will be needed to facilitate the purchase of processing equipment and provide operating capital, and digital platforms can act as matchmakers for producers and processors while providing technical assistance so that producers meet market requirements. This approach also offers food security benefits, as processed products are easier to transport and can reach markets in conflict-affected areas where consumption of nutrient-dense foods is particularly limited.

Prioritizing investments in value chains with low weight and high value, such as spices or dried fruits, offers another opportunity. The profitability of these products justifies the increased transportation and logistics costs and makes them less susceptible to price shocks, while also making it more feasible for firms and farmers in conflict-affected areas to participate. Development of these value chains will require coordinated interventions across inputs, extension, finance, processing, and market development.

Building the capacity of commodity associations to advocate for policies that appropriately support domestic production could help address related constraints. These associations already engage with the authorities on issues such as import restrictions, and partnering with them to develop evidence-based policy recommendations would strengthen their capacity to address current policy needs as well as those that emerge in the future. An initial focus could be advocating for a phased approach to import restrictions on products such as soymeal or packaging, where domestic substitutes are not yet available and where these inputs remain critical to other sectors.

Alternative energy solutions for small and medium enterprises and producers offer a further opportunity to address electricity and fuel constraints. Some small and medium agriprocessors and producers are already transitioning to solar energy for water pumps and transport, and locally adapted alternative energy solutions for drying and cooling are emerging through organizations such as the Renewable Energy Association of Myanmar, which has a long history of solar, hydro, wind, and biomass energy development. Financing will be a critical factor in supporting this transition, with credit guarantees targeting agribusinesses and producers transitioning to alternative energy representing one practical approach.

4.5. Food Security and Nutrition

High prices for healthy foods in the West (Rakhine and Chin), Southeast (Kayin, Kayah, Mon, and Tanintharyi), and Northeast (Kachin and Northern Shan), combined with poor diet indicators in these regions, signal a need to increase the flow of affordable, nutritious foods through stronger distribution and retail networks. Across Myanmar more broadly, diets remain heavily concentrated in staples, indicating scope for the development and marketing of affordable nutrient-dense foods including pulses, fruits, vegetables, eggs, and dairy. Investments in local production, aggregation, storage,

and transport, particularly for perishable foods, could reduce costs and improve the availability of healthy foods in low-access areas, with alternative processing methods for perishable products representing a practical opportunity to extend shelf life and reach more remote markets. Where market access remains challenging, supporting households to produce their own nutrient-dense foods through crop diversification and home gardens could play an important complementary role in improving food security and nutrition outcomes, with evidence showing that households with more diverse crop production are better able to maintain diet quality even under conditions of conflict and market disruption.

Supporting the local production of therapeutic foods offers an additional opportunity. Ready-to-Use Therapeutic Food (RUTF) and Ready-to-Use Supplementary Food (RUSF), specially formulated products used to treat severe and moderate acute malnutrition in children, are currently procured from international markets and distributed in Myanmar through nutrition programs. The ingredients for these products can be produced locally, as is the case in many other countries. Local production would create a market for the production, processing, and distribution of nutritious products and build value chain capacity through compliance with strict quality standards. Producers would need access to specific quality inputs, partnerships with digital extension services could provide production information and digital audits to ensure quality control, and the secure and well-defined market would make financial institutions more likely to lend to these producers.

Promoting healthy diets through digital content offers a cost-effective approach to improving dietary diversity. Partnerships between digital extension platforms, nutrition influencers, and agriprocessors could create content on platforms such as TikTok that provides cooking guidance and recipes linked to nutrient-rich foods. Agriprocessors producing healthy foods may sponsor such content as a way to promote their products and reach consumers directly.

4.6. Enabling Environment

Several constraints identified throughout this paper are rooted in the broader policy and regulatory environment. The dual exchange rate system and foreign exchange restrictions raise the cost of imported inputs and suppress domestic price levels for major export commodities. Import licensing requirements create supply uncertainty for key agricultural inputs, with the burden varying considerably across commodities. Current regulations governing microfinance institution loan portfolios limit their ability to serve agribusinesses and larger farm operations, even as demand for credit grows. The absence of recognition of alternative collateral, including warehouse receipts, restricts financing available to agriprocessors. Constraints around mobile wallet transaction limits and interoperability between institutions limit the reach of digital financial services in areas where physical banking infrastructure is limited. These constraints have a direct bearing on the ability of the agrifood system to sustain resilience across the country, and their easing would expand the capacity of all actors working across it. Moreover, stability and predictability in the policy environment is itself important, as frequent changes create uncertainty that deters investment and adaptation across the agrifood system.

In this context, the private sector's adaptive capacity has been the defining feature of the agrifood system's resilience under extraordinarily difficult conditions, and this deserves recognition. At the same time, the scale of the constraints points to the limits of what private sector actors can sustain alone. Flexible and innovative approaches to engagement, including working capital support, risk-sharing arrangements, and co-investment, represent the most effective available means of strengthening agrifood system resilience where conventional approaches may not apply. Interventions are most likely to be sustainable when they work through and strengthen existing private sector actors rather than substituting for them, bundling support across multiple constraints simultaneously where possible, and maintaining the flexibility to respond to a rapidly changing

operating environment. Sustaining investment in data collection, monitoring, and research will be critical to identifying where engagement is most needed, tracking whether conditions are improving, and generating the robust evidence needed to guide effective and adaptive responses over time.

5. DISCUSSION

The evidence presented in this paper documents an agrifood system that has shown remarkable resilience under sustained and compounding pressure. Drawing across the thematic sections, several observations are important to highlight as engagement with the sector continues.

Private sector actors have been central to sustaining the agrifood system's resilience since 2021. Input retailers have maintained physical availability of fertilizer, seeds, and agro-chemicals even in insecure areas, while bundling these with informal credit and agronomic advice. Mechanization service providers have continued to supply labor-saving services through flexible payment arrangements. Private agribusinesses have absorbed the contraction in formal credit, with agribusinesses now accounting for roughly three-quarters of fertilizer credit sources. Private companies have become the dominant providers of extension, both in-person and digital. These actors are operating under significant financial stress and within a difficult policy environment, but they have sustained farmer access to inputs, services, credit, and advice during a period when these would otherwise have likely collapsed.

Conflict and insecurity have produced significant variation in how the agrifood system performs. Farmers in insecure communities face input prices 1-6 percent higher than those in more secure areas, are 7-15 percentage points more likely to report labor shortages, and are 11 percentage points less likely to access in-person extension services. Mobility constraints limit mechanization service providers' ability to deliver timely services and traders' ability to move goods to market. Rising transport costs and concerns about storing produce contribute to lower prices received by farmers. These conditions shape decisions about what to plant, how much to invest, and where to sell, with implications for productivity across the system. Food security and nutrition indicators follow a similar pattern, with hunger, poor food consumption, and inadequate dietary diversity all significantly more prevalent in the most conflict-affected regions.

Inclusion in the agrifood system is uneven across multiple dimensions for the same groups. Smallholders, less educated farmers, and those in remote or conflict-affected areas have lower access to formal credit, lower market commercialization rates, and less access to both in-person and digital extension services. Women face worse diet quality than men on every indicator, with a gap that has widened since 2022, and female-only households fare relatively worse on food consumption indicators. Among children, girls, urban children, and asset-poor children consistently show lower dietary diversity. These limitations on access tend to occur together, with the same groups experiencing reduced participation across multiple dimensions of the agrifood system simultaneously. Inclusive approaches that account for these overlapping characteristics are important for reaching the groups whose participation is most limited.

The system is also accumulating structural fragility through the short-term adaptations that households and businesses have made to sustain themselves. Farmers have shifted toward lower-cost production practices that carry yield penalties and raise public health and environmental concerns. Input retailers and mechanization service providers are extending credit and flexible payment arrangements to farmers under increasing financial stress, with declining sales volumes, tighter cash flow, and growing difficulty accessing working capital. Private extension has grown to fill the gap left by public services but with an increasingly commercial character, raising concerns about misinformation and the balance between informational value and commercial motives. These adaptations are rational responses to a difficult environment, and monitoring their cumulative effects

on productivity and financial stability will be important for understanding the longer-term trajectory of the system.

Strengthening agrifood system resilience over the short- and medium-term involves working through channels that are already functioning, with private sector actors having shown themselves to be effective conduits for sustaining farmer access to inputs, credit, and extension. Bundling support across multiple constraints simultaneously tends to yield stronger outcomes than addressing any one constraint alone, particularly where credit, extension, market access, and insurance can be brought together. Inclusivity in how engagement is designed and delivered is important for reaching the groups whose participation in the agrifood system remains most limited. Given the dynamic conditions on the ground, continued monitoring and evidence will be important for informing engagement over time. The resilience the agrifood system has shown since 2021 provides a foundation that the private sector can build on, with external partners playing a complementary role through facilitating investment, sharing risk, and supporting innovation in conditions where conventional approaches may not apply.

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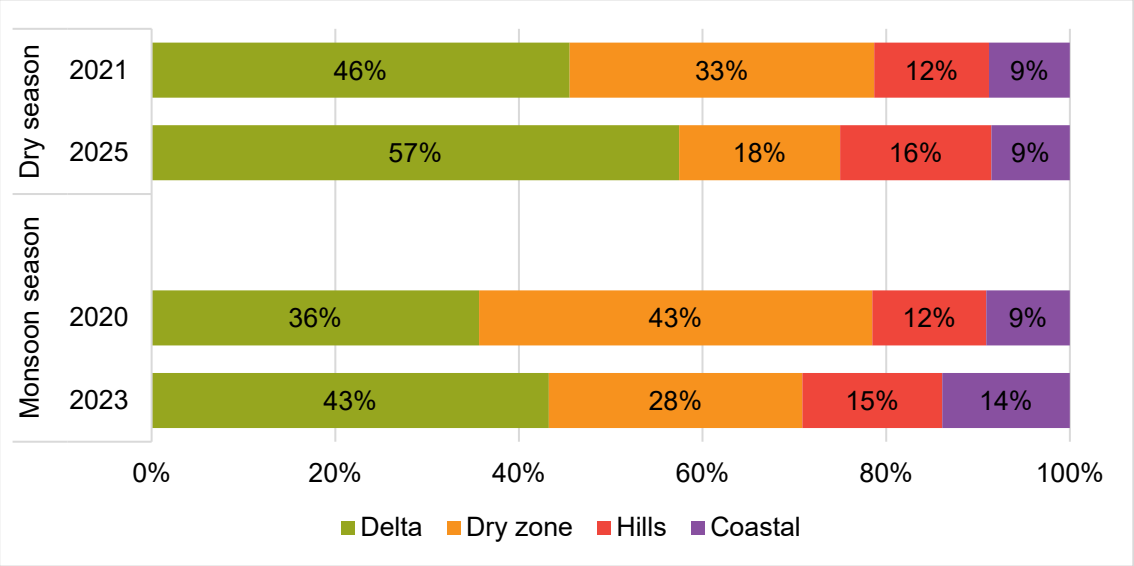
APPENDIX

1. Distribution of MADB Farm-loan Recipients across Agro-ecological Zones

Figure A.1. Distribution of MADB farm-loan recipients across agro-ecological zones, by season and year



Source: Myanmar Agricultural Performance Surveys 2020-2025

2. Description of Food Security and Nutrition Indicators

We measure food insecurity in Myanmar from April 2022 to July 2025 with different measures. We use two household-level indicators to assess food security: the Household Hunger Scale (HHS), which measures experiences of hunger based on three questions concerning lack of food, going to sleep hungry, and going a whole day without eating; and the Food Consumption Score (FCS), which captures dietary diversity and food frequency, weighted by the nutritional importance of the foods consumed. At the individual level, we use the Minimum Dietary Diversity (MDD), defined as whether an adult or child consumed at least 5 of 10 food groups in the 24 hours prior to the survey. For young children, we also include the Minimum Meal Frequency (MMF), which measures age-appropriate consumption of 2–4 meals and milk feeds during the previous 24 hours. Using all four indicators allows us to distinguish between severity of hunger, diet quality, and intra-household nutritional vulnerability, thereby identifying where risks are most acute and who is most affected.

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