MYANMAR

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Myanmar Agricultural Performance Survey (MAPS) Monsoon Season 2024: Agricultural Input Markets, Credit and Extension Services

This note provides an overview of agricultural input access and utilization for the monsoon season 2023 based on a nationally and regionally representative sample of 4,663 crop farmers undertaken in January 22 to March 7, 2024.

Key Findings

- Fertilizer use rates and profitability for rice production reached their highest levels since before the coup during the 2023 monsoon season, driven primarily by higher paddy prices. Application rates for monsoon season paddy increased to 66 kg/acre from 54 kg/acre in the previous monsoon. Urea application increased from 33 kg/acre to 38 kg/acre, and non-urea fertilizers (mainly compound 15-15-15) increased from 21 kg/acre to 28 kg/acre.
- The benefit-cost ratio of urea application to paddy crops averaged 2.3 at the urea sales price reported by agri-input dealers and 2.0 at farmer reported urea prices. These ratios imply a return on investment in urea fertilizer for the farmer of 130 percent at input dealer prices and 100 percent at average famer-reported prices. The difference in reported prices likely reflects interest charges and local transport costs from the dealer to the farm.
- Access to mechanization services, tractors and combine harvesters was similar in monsoon 2023 compared to a year earlier, but costs increased dramatically. Plowing with a four-wheel tractor, for example, increased by 42 percent to 60,000 MMK/acre. The cost of combine harvesting averaged 110,000 MMK/acre. Timeliness of access was likely reduced as fuel shortages increased, especially in conflict areas.
- The share of farmers using saved paddy seed increased from 56 percent to 61 percent nationally for use in the 2023 monsoon season compared to a year before. There were important differences across states and regions. The share of farmers purchasing seed in conflict areas fell more than the national average; by 11 percentage points in Mandalay, 7 percentage points in Rakhine, 6 percentage points in Tanintharyi, and 5 percentage points in Mon State.
- Eighty-four percent of farms hired labor in the 2023 monsoon season, slightly higher than the previous monsoon season. Male wages rose to 8,800 MMK/day in the 2023 monsoon season from almost 7,400 MMK/day in the previous monsoon, an increase of 19 percent.
- Despite large nominal increases, real wages for men and women nevertheless fell as the cost of a typical daily diet which rose 37 percent over the period February 2023 to March 2024.

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- Access to internet or mobile phone services increased by 3 percentage points from 15 percent to 18 percent, and access to private sector services increased by almost 3 percentage points from 18.0 percent to 20.6 percent. Increases in private extension access favored producers of cash crops, notably betel leaves, cotton, rice and maize. Internet or mobile phone services were sought out by producers of cotton, rice, betel leaves and pulses, again primarily cash crops.

Recommendations

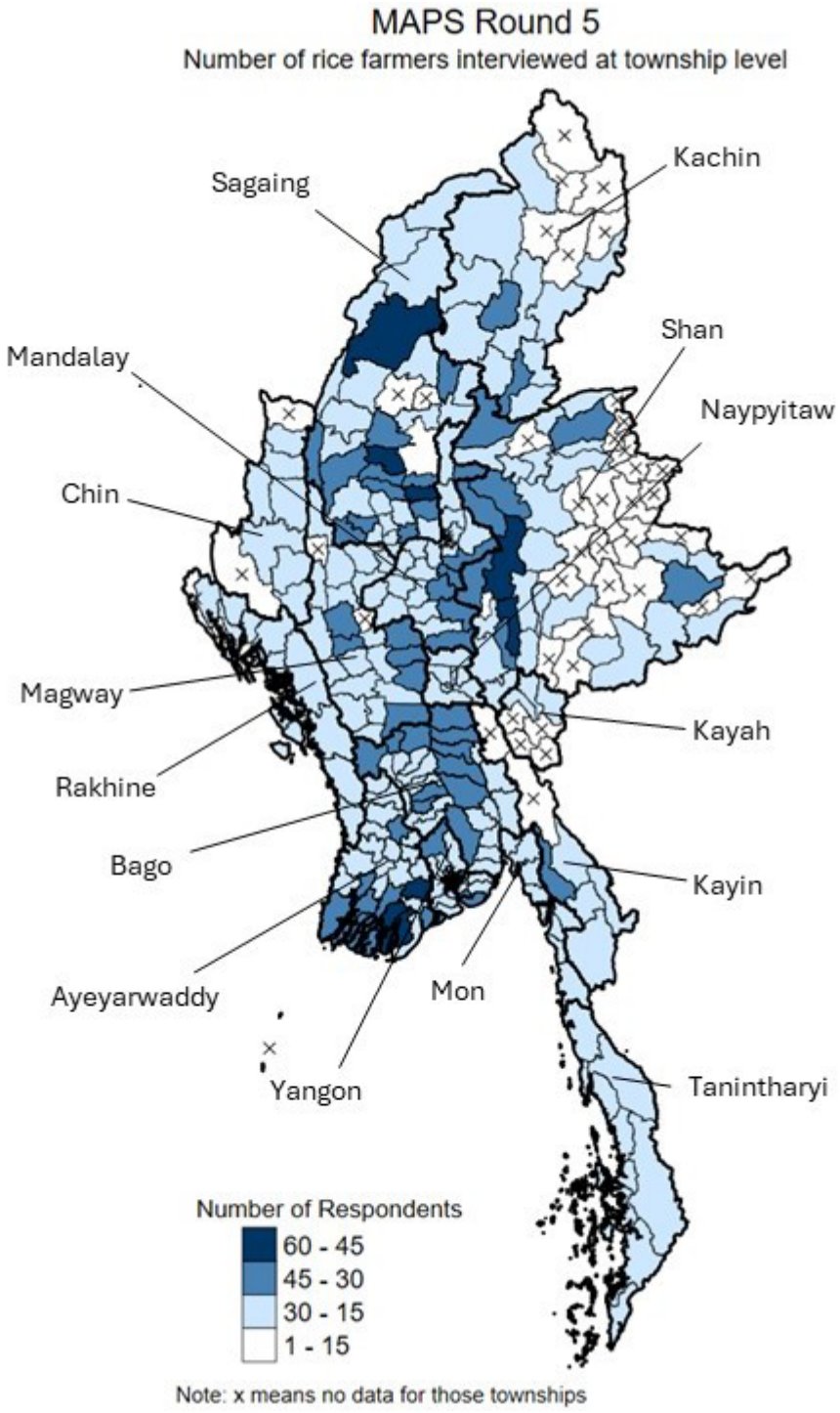
- Improvements in the geographical coverage and content of mobile phone extension services could play an important role in offsetting reductions in in-person extension access. This is an opportunity for development partners to have a positive impact without increasing risk to beneficiaries or implementing partner staff.
- The prevalence of local farmers as a seed source indicates that mobile extension services targeting informal seed producers could be important, along with facilitating access to certified seed for multiplication.

  As nearly all chemical input distributors and machinery service providers depend on imports, access to foreign exchange is critically important. Further sharp depreciation of the Myanmar Kyat will lead to increases in prices for the coming post-monsoon season.

Introduction

This research note provides an overview of input access and use by smallholder farmers in Myanmar during the monsoon season of 2023. Results are based on the fifth round of the Myanmar Agricultural Performance Survey (MAPS) conducted with 4,663 farmers during the period January 22 to March 7, 2024 (Figure 1). Ninety-four percent of respondents cultivated crops in the monsoon season.

Figure 1. Map of respondents by township



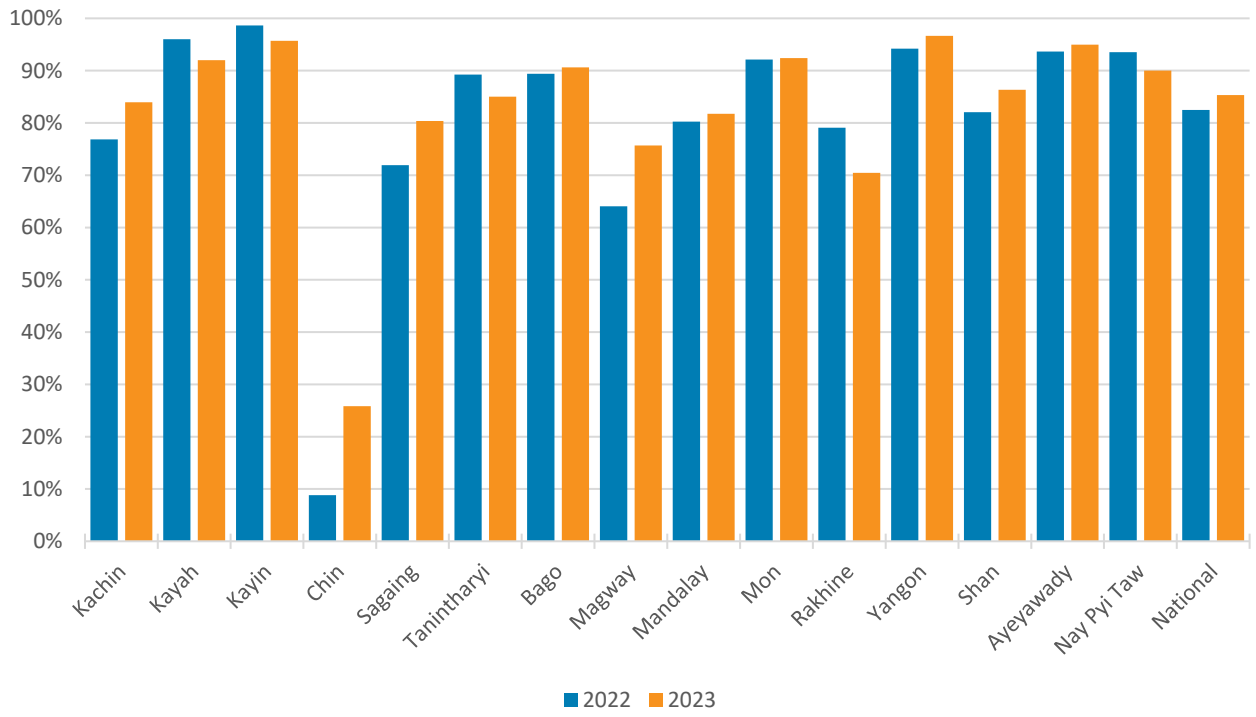
Mechanization

Access to mechanization is important for timely planting and harvesting, thereby maximizing the use of available soil moisture and avoiding weather-related losses at harvest time. On a national scale, mechanization access was little changed in the 2023 monsoon season; 85 percent of rice plots were prepared with mechanical power compared to 82 percent the year before. There was a slight decline in the use of combine harvesters for rice, from 49.5 percent of plots in the previous monsoon season to 48 percent in 2023.

At state and region level, access to mechanization for land preparation improved in conflict areas. In Sagaing for example, 80 percent of rice plots were mechanically prepared compared to 72 percent in the previous monsoon season; in Magway 94 percent were mechanically prepared compared to 76 percent the previous dry season (Figure 2).

Costs of plowing with a four-wheel tractor increased dramatically in monsoon 2023 compared to a year before. Average plowing costs per acre rose to 62,000 MMK/acre from 44,000 Myanmar Kyat in monsoon 2023, an increase of 42 percent. Higher costs reflect higher fuel costs, lack of fuel availability, as well as scarcity and cost of spare parts.

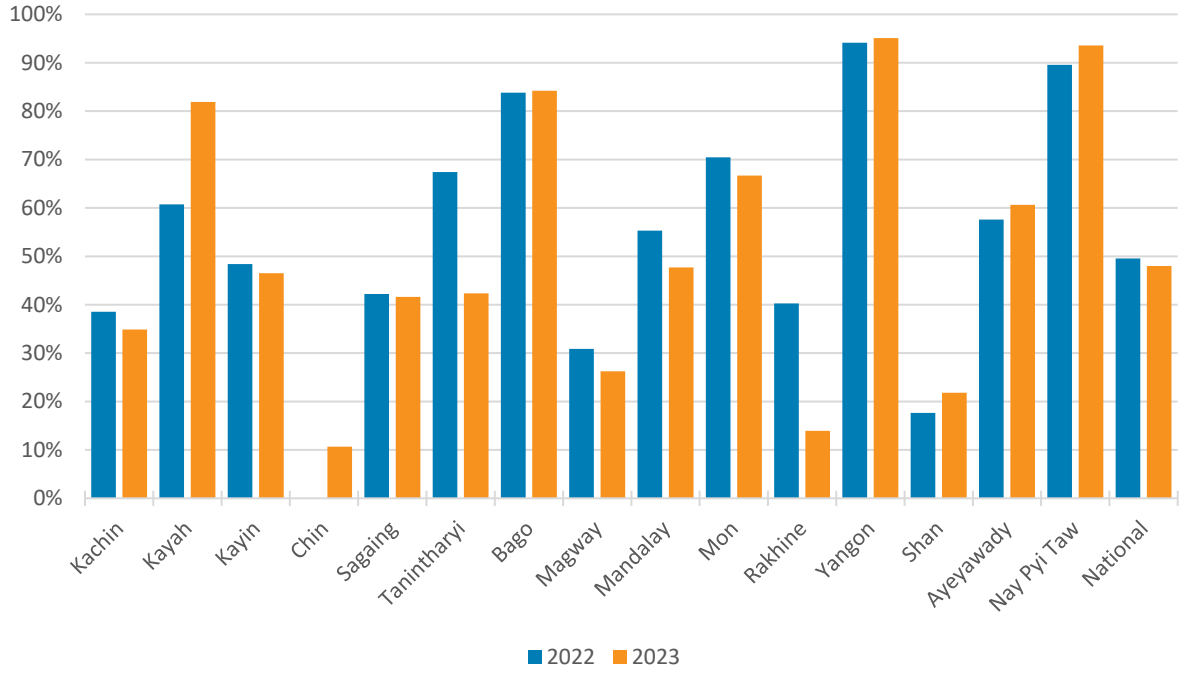
Figure 2. Access to mechanical land preparation services for rice in the monsoon season 2023 compared to the monsoon season 2022



Note: No cases of land preparation using mechanization were reported in Chin State in monsoon 2022.

The picture is less consistent for combine harvesting, where access improved in some areas and was either unchanged or reduced in others. In Kayah State, access improved from 61 percent in the previous monsoon season to 82 percent in the most recent one (and comparable to improvement in access in the previous post-monsoon season). In Rakhine and Tanintharyi access fell sharply in response to increased conflict (Figure 3).

Figure 3. Access to combine harvesting or mechanical threshing services for rice in the monsoon season 2023 compared to monsoon 2022



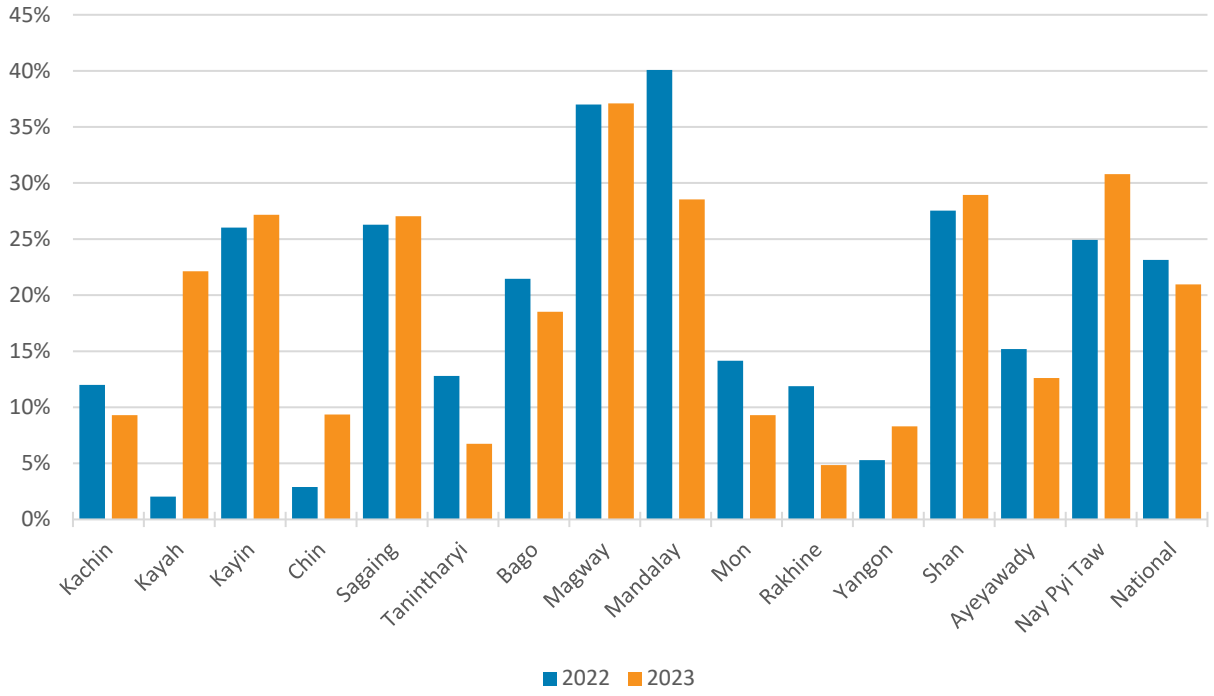
Note: No cases of combine harvesting or mechanical threshing were reported in Chin State in 2022.

Seed sources

The share of farmers using saved seed increased to 61 percent from 56 percent in the previous monsoon season, while the share of seed purchased from agri-input retailers fell by 2 percentage points from 23 to 21 percent and seed purchased from other farmers fell by 4 percentage points to16 percent.

Although the share of farmers purchasing rice seed nationally for use in the 2023 monsoon season was only slightly lower than the previous monsoon season, by just 2 percentage points, there were important differences across states and regions. The share of farmers purchasing seed in conflict areas fell more than the national average; by 11 percentage points in Mandalay, 7 percentage points in Rakhine, 6 percentage points in Tanintharyi, and 5 percentage points in Mon State (Figure 4).

Figure 4. Percent share of farmers who made rice seed purchases by state and region in the monsoon season 2023 compared to monsoon 2022

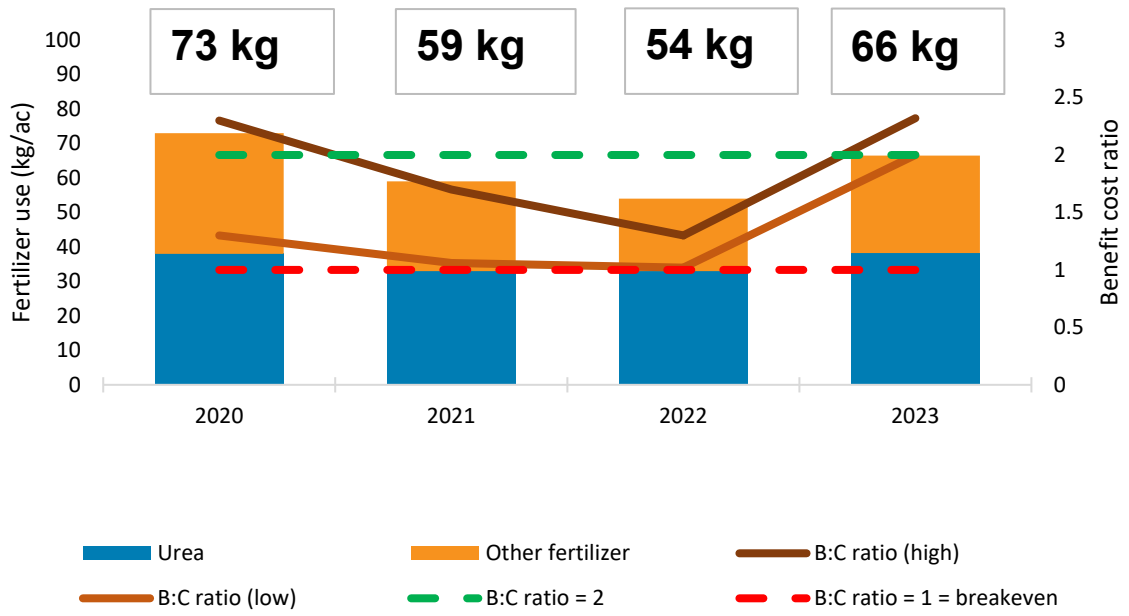


Fertilizer use

Fertilizer use rates on rice fields in monsoon season 2023 increased from an average of 54 kg/acre to 66 kg/acre, an increase of 33 percent compared to the previous monsoon season. The increase in fertilizer use was accounted for by increases in both urea fertilizer, from 33 kg/acre to 38 kg/acre on average, and an even larger increase in non-urea fertilizers, from 21 kg/acre to 28 kg/acre (with compound 15-15-15 accounting for most of the increase). Urea application in the monsoon season was two-thirds the rate applied in the dry season, when improved water control and longer sunlight hours increase grain yield response. Just over half of rice farmers (54 percent) used purchased organic fertilizer, a slight increase from 49 percent in the previous monsoon.

Increased fertilizer application on monsoon paddy in 2023 reflects higher anticipated profitability compared to the previous monsoon season. Due to sharp increases in paddy prices, and modest decreases in the price of urea, the benefit-cost ratio of urea application was 2.3 at the urea sales price reported by agri-input dealers and 2.0 at urea prices reported by farmers (Figure 5). This implies a 130 percent return on urea at agri-input dealer retail prices and a 100 percent return at farmer reported prices. The difference between farmer reported urea prices and prices at agri-input dealers is most likely a reflection of interest charges and local transportation charges. For additional analysis of rice productivity in the monsoon 2023 season see MAPSA 2024a.

Figure 5. Changes in profitability (Benefit Cost Ratio) and fertilizer use for monsoon season paddy production 2020 to 2023



Note B:C ratio (high) based on agri-input retailer price of urea; B:C ratio (low) based on farmer reported price of urea.

Fertilizer use on non-rice crops also increased, by two thirds compared with the previous monsoon season, to 18kg/acre. Most of the increase was accounted for by the use of compound fertilizer, which doubled from the previous monsoon season (albeit from very low rates). Sixty-three percent of farmers applied inorganic fertilizer to their plots, unchanged from the previous monsoon season.

The share of farmers reporting difficulties in fertilizer access in monsoon 2023 was similar to the previous monsoon. About half of farmers faced financial or cost related constraints, while 14 percent reported difficulties travelling to procure fertilizer and 12 percent said it was difficult to obtain.

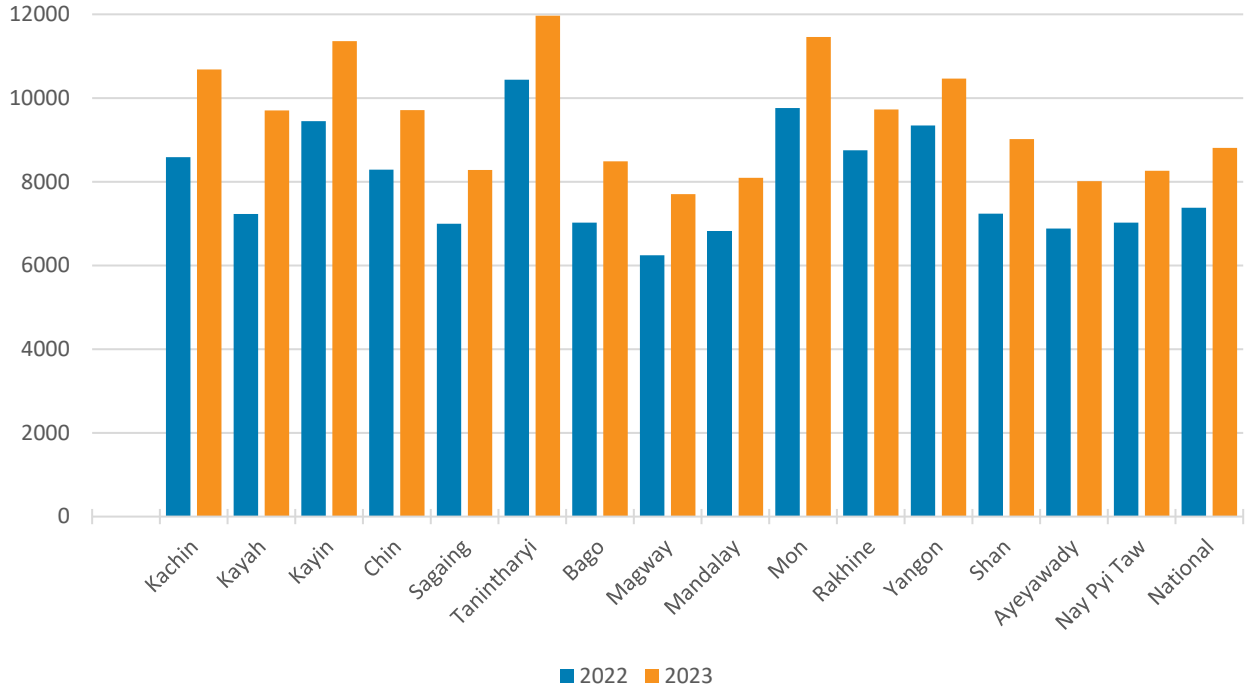
Pesticides and herbicides

Pesticide and herbicide use was little changed in monsoon 2023 compared to the previous monsoon season. Almost 50 percent of farmers purchased herbicides for use in monsoon 2023 compared to 53 percent the year before. Almost 60 percent purchased insecticides, a slight increase on 58 percent the previous year. Rice farmers used herbicides and insecticides at a slightly lower rate than the national average; at 46 percent and 45 percent respectively.

Labor use

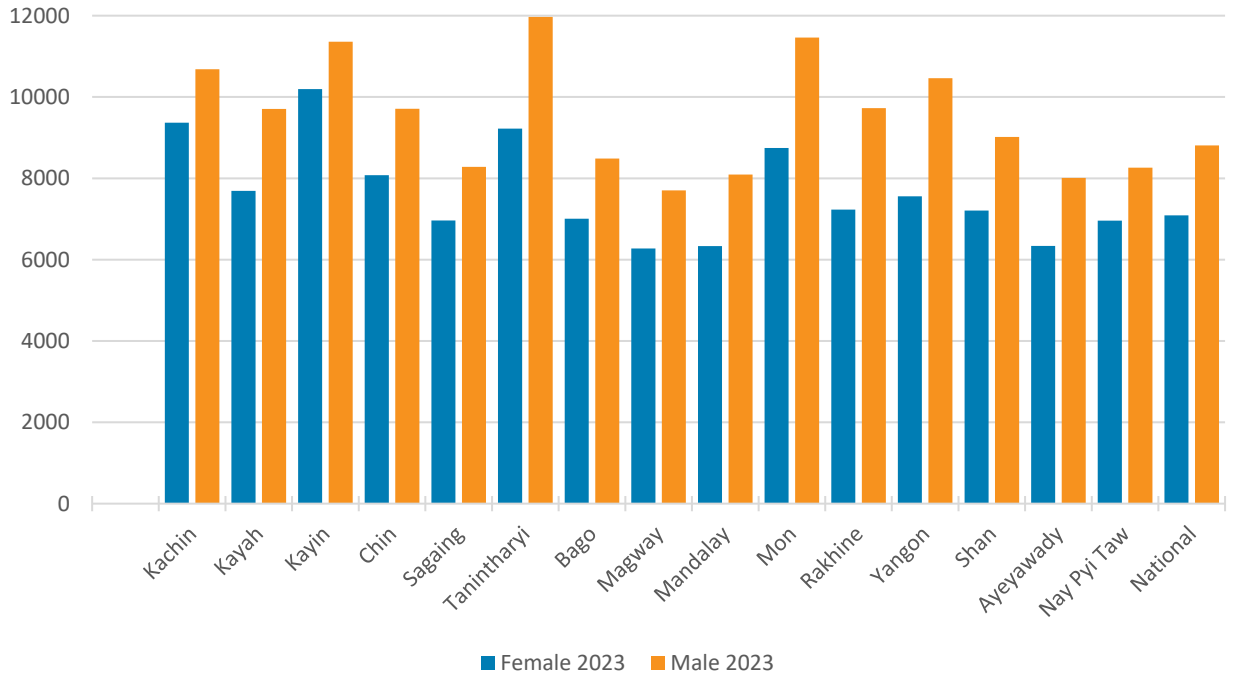
Eighty-four percent of farms hired labor in the 2023 monsoon season, slightly higher than the previous monsoon season. Almost 97 percent of groundnut and sesame farmers hired labor, compared to 89 percent of rice producers. This modest increase in the share of farms hiring labor occurred despite large nominal increases in wages. Male wages rose to 8,800 MMK/day in the 2023 monsoon season compared to 7,400 MMK/day in the previous monsoon an increase of 19 percent. Regionally, male wages increased most rapidly in Kayin, Shan, Kachin and Magway; least in Rakhine, Yangon and Tanintharyi (Figure 6).

Figure 6. Daily nominal wage rate (MMK/day) for men by state and region monsoon season 2023 compared to 2022



Female wages rose from an average of almost 5,800 MMK/day to almost 7,100 MMK/day over the same period, an increase of 23 percent. The wage gap between male and female labor fell slightly with females earning 80 percent of the average male wage nationally. The wage gap was widest in Yangon, where the female daily wage is only 72 percent of the male wage on average, and narrowest in Kayin and Kachin States where women earn 90 percent and 88 percent of the male wage respectively (Figure 7).

Figure 7. Daily nominal wage rate (MMK/day) for women and men by state and region monsoon season 2023



Neither male nor female wage increases kept up with the cost of a typical daily diet which rose 37 percent over the period February 2023 to March 2024 (MAPSA 2024b), implying a decrease in real daily wage rates (the amount of food that laborers can purchase with their wages).

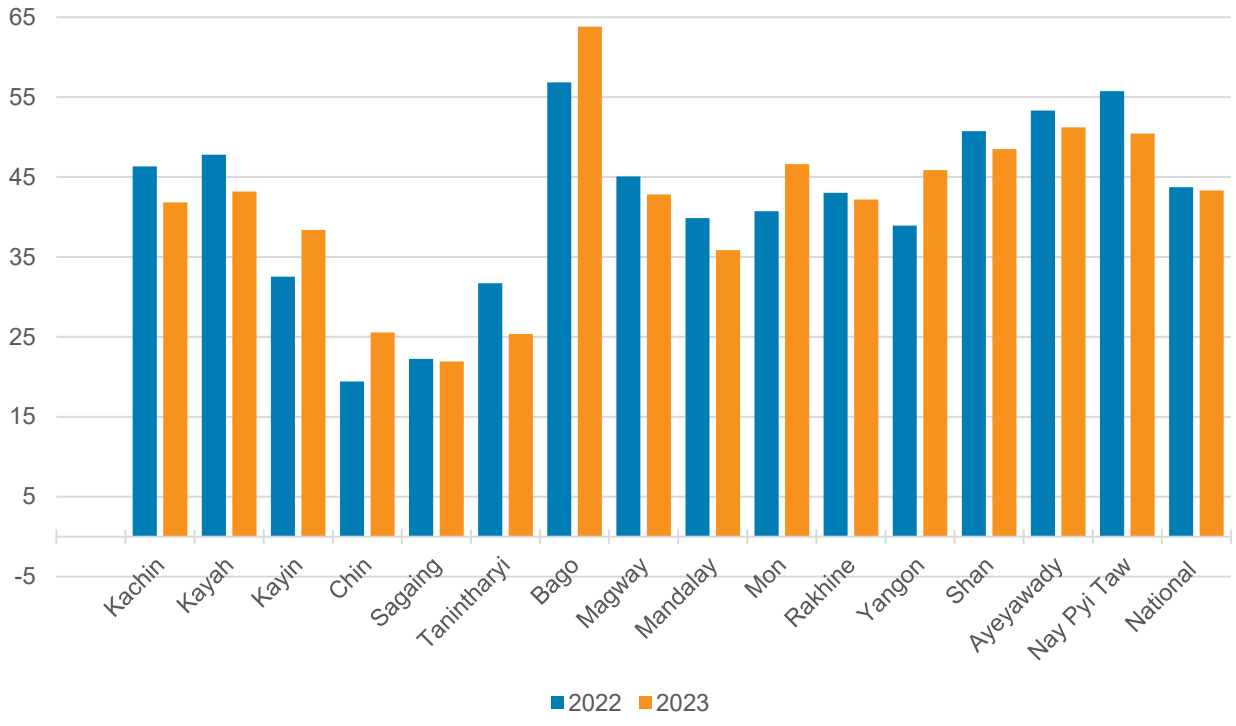
Extension

Access to extension services from the private sector and from the internet or mobile phone or services rose slightly in the monsoon season 2023 compared to the year before, while declining for NGOs and stable for public extension. Access to internet and/or mobile services increased by 3 percentage points from 14.7 percent to 17.7 percent, and access to private sector services increased by almost 3 percentage points from 18.0 percent to 20.6 percent. Increases in private extension access favored producers of cash crops, notably betel leaves, cotton, rice and maize. Mobile services were sought out by producers of cotton, rice, betel leaves and pulses, again primarily cash crops.

Credit

Access to credit in the monsoon season 2023 was similar on average nationally compared to a year ago, but with variations across States and Regions (Figure 8). Most farmers who did not access credit, 80 percent, stated that the reason was because they did not need it.

Figure 8. Percent of farmers accessing credit by state and region in monsoon season 2023 compared to 2022



Conclusions

Myanmar's agricultural input systems performed well during the monsoon season of 2023 compared to the previous monsoon, against a background of rising agricultural commodity prices, especially for rice, and hence improved profitability for farmers. Fertilizer use and labor hiring increased, but large increases in nominal wages did not keep up with high food cost inflation. Access to mechanization services was similar to the previous monsoon season in 2022, but the cost of services increased sharply due to fuel and maintenance costs.

Dependence on saved seed increased in the monsoon season 2023, and maize farmers face considerable uncertainty in hybrid seed access for the current monsoon. Almost half of all seed purchases nationally are made from neighboring farmers, indicating an opportunity to target extension to local informal seed producers to ensure quality.

In-person extension services from public and NGOs continued to decline while private extension services recovered slightly. Demand for mobile phone extension services increased slightly, with a preference for information on cash crops.

Going forward, private sector input dealer and mechanization service provider access to foreign exchange will be important for maintaining farmer access. Development partners can make an important contribution by expanding the availability and content of mobile phone extension services.

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